

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 1 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Cover Sheet:

At Section 54, column 1, please delete "Disease, Secretase" and insert --Disease Secretase--.

At Section (*), column 1, please insert --This patent is subject to a terminal disclaimer--.

On page 2, column 1, line 5, please delete "th" and insert --the--.

In the Specification:

At Column 1, line 1, please delete "Disease, Secretase" and insert --Disease Secretase--.

At Column 2, line 3, please delete "a-site" and insert --α site--.

At Column 3, line 56, please insert --of-- before "those".

At Column 4, line 24, please delete "lease" and insert --least--.

At Column 5, line 10, please insert --to-- before "any".

At Column 5, line 49, please insert --of-- before "those".

At Column 6, line 28, please delete "lease" and insert --least--.

At Column 8, line 6, please insert --iii) select the cells which produce the critical peptide.-- after "APP,".

At Column 8, line 16, please insert --(SEQ ID NO: 74)-- after "P2".

At Column 8, line 37, please delete "has" and insert --as--.

At Column 8, line 64, please delete "Measurment" and insert --Measurement--.

At Column 9, line 3, please delete "reporter-protein" and insert --reporter protein--.

At Column 9, line 38, please delete "construct" and insert --constructed--.

At Column 9, line 40, please delete "stretches" and insert --stretches--.

At Column 9, line 51, please delete "recombinant" and insert --recombinant--.

At Column 10, line 12, please delete "hyrdrophobic" and insert --hydrophobic--.

At Column 11, line 37, please delete "oassays" and insert --bioassays--.

At Column 11, line 53, please delete "on" and insert --one--.

At Column 16, line 11, please delete "Fig. 11" and insert --Fig. 12--.

At Column 16, line 48, please delete "I)" and insert --ID--.

At Column 16, line 65, please delete "Glutarnine" and insert --Glutamine--.

At Column 17, line 37, please delete "α-secretase" and insert --β-secretase--.

At Column 18, line 38, please delete "possible" and insert --possibly--.

At Column 21, line 12, please delete "6" and insert --6--.

At Column 25, line 12, please delete "embyonic" and --embryonic--.

At column 30, line 28, please delete "Hu-ASPI" and insert --Hu-asp1--.

At column 31, line 20, please delete "sequence" and insert --sequenced--.

At column 32, line 42, please insert --to-- before "contain".

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 2 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification, (cont'd):

- At column 33, line 8, please delete "manufacture" and insert --manufacturer--.
- At column 33, line 60, please delete "Phospholmager" and insert
--PhosphorImager--.
 - At column 33, line 63, please delete "is" and insert --in--.
 - At column 33, line 66, please delete "CDNA" and insert --cDNA--.
 - At column 35, line 59, please delete "AP" and insert --A β --.
 - At column 36, line 63, please delete "proprietary" and insert --proprietary--.
 - At column 39, line 17, please delete "AP" and insert --A β --.
 - At column 39, line 18, please delete "AP" and insert --A β --.
 - At column 39, line 24, please delete "AP" and insert --A β --.
 - At column 39, line 26, please delete "P42" and insert -- β 42--.
 - At column 39, line 26, please delete " γ -secretase" and insert -- γ -secretase--.
 - At column 40, line 51, please delete "Ab" and insert --A β --.
 - At column 40, line 67, please delete " β P40" and insert --A β 40--.
 - At column 40, line 67, please delete " β P42" and insert --A β 42--.
 - At column 41, line 5, please delete " β P42" and insert --A β 42--.
 - At column 41, line 17, please delete "Ab." and insert --A β --.
 - At column 44, line 50, please delete "intermediate" and insert --intermediate--.
 - At column 45, line 37, please delete "2O" and insert --20--.
 - At column 45, line 43, please delete "101 M" and insert --101 μ M--.
 - At column 45, line 65, please delete "Hu-ASp2(b)" and insert --Hu-Asp2(b)--.
 - At column 46, line 65, please delete "prepared" and insert --prepare--.
 - At column 48, line 1, please delete "(1/250)" and insert --(1/2500)--.
 - At column 48, line 11, please delete "K1" and insert --K1--.
 - At column 49, line 16, please delete "Swedigh" and insert --Swedish--.

In the Sequence Listing:

Please delete the sequence listing as published and replace with the paper copy attached hereto.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 3 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims:

In claim 1, at column 163, lines 43-44, please delete "FIG. 3 (SEQ ID NO: 4)," and insert --FIG. 4, (SEQ ID NO: 3),--.

In claim 1, at column 163, lines 51-54, please delete ", and wherein the polypeptide exhibits aspartyl protease activity involved in processing APP into amyloid beta." and insert --.--.

In claim 6, at column 164, line 45, please delete "A host" and insert --An isolated host--.

In claim 8, at column 164, line 50, please delete "derived from" and insert -- that is--.

In claim 10, at column 164, line 56, please delete "A host" and insert --An isolated host--.

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 4 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

SEQUENCE LISTING

<110> Gurney et al.
<120> ALZHEIMER'S DISEASE SECRETASE, APP SUBSTRATES THEREFOR, AND USES THEREFOR
<130> 28341/6280M
<140> US 09/869,414
<141> 2001-06-27
<150> US 09/416,901
<151> 1999-10-13
<150> US 60/155,493
<151> 1999-09-23
<150> US 09/404,133
<151> 1999-09-23
<150> PCT/US99/20881
<151> 1999-09-23
<150> 60/101,594
<151> 1998-09-24
<160> 74
<170> PatentIn Ver. 2.0
<210> 1
<211> 1804
<212> DNA
<213> Homo sapiens
<400> 1
atgggcgcac tggccgggac gctgtgtctg cctctgtgg cccagtggct cctgcggcc 60
gccccggcgc tggcccccgc gccttcacg ctgccttgcctt gggccgcgc ggccacgaac 120
cgcgtagttg cgcccacccc gggacccgggg accccctgcgc agggccacgc cgaagggttg 180
gogctcgccc tggagcctgc cctggcgcc cccggggcc cgcacaactt ttggccatg 240
gtagacaacc tgeaggggggc ctgtggccgc ggtaactacg tggagatgt gatggggacc 300
cccccgccaga agctacagat ttcgtttgac actggaaagca gtaactttgc cgtggcggga 360
accccgcaact cctacataga caactactttt gacacagaga ggtctagcac ataccgttcc 420
aaggggctttg acgtcacagt gaagttadada caaggaaagct ggaogggtt cgttggggaa 480
gacctcgta ccatccccaa agtttcaat attcttcattt ttgtcaacat tgccactatt 540
tttgaatcag aaaaattttt ttgtctgggg attaaatggta atgaaataact tggcttagct 600
tatgccacac ttgtccaagec atcaaggttt ctggagacot ttcttgcactc cctgggtgaca 660
caagcaaca tcccccaacgt ttcttccatg caaatgttgtt gaggcgggtt gcccgggttgt 720
ggatctgggg ccaacggagg tagttttgtc ttgggtggaa ttgaaccaaag ttgtataaaa 780
ggagacatct ggtataccct tattaaggaa gagttgtact accagataga aattctgaaa 840
ttggaaatttgg gaggccaaag ctttaatctg gactgcagag agtataacgc agacaaggcc 900
atcgtggaca gtggcaceao gtgtgtgcgc ctggcccaaga aggtgtttga tgccgggttg 960
gaagctgtgg cccgcgcattt tctgtattca gaatttctgtt atggtttctg gaotgggttcc 1020
cagctggcgt gctggacgaa ttccggaaaca ctttgggtttt acttccctaa aatctccatc 1080
tacctgtggag atgagaaactc cagcagggtca ttccgtatca caatctgc tcagctttac 1140
attcagccca tgatgggggc cggctgtat tatgaatgtt accgatttgg aatttcccca 1200
tccacaaatcg cgtgggtgtat cggtgccacg gtgtatggggg gtttctacgt catcttcgac 1260
agageccaga agaggggtggg ctccgcagcg agccccctgtt cagaatgtc aggtgtgtca 1320
gtgtctgaaa ttccggggcc ttctcaaca gaggatgttag ccagcaactg tggcccccgt 1380
cagtotttga gcgagcccat ttgtgtggatt gtgtctatg cgtcatgag cgtctgtgga 1440
gcccattttttttaat cgttctgtgtt ctggctggcg tccgggtgtca gogtgcggcc 1500

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 5 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

cgtgaccctg aggtcgtaaa tgatgagtcc tctctggta gacategtg gaaatgaata 1560
gccaggcctg acctaagca accatgact cagctattaa gaaaatcaca tttccaggc 1620
agcagccgg atcgatggtg gcgccttctc ctgtccccac ccgtcttcaa tctctgttct 1680
gctcccatat gccttctaga ttcaactgtct ttgattctt gatttcaag ctttcaaatc 1740
ctccctactt ccaagaaaaa taattaaaaa aaaaacttca ttctaaacca aaaaaaaaaa 1800
aaaaa 1804

<210> 2
<211> 518
<212> PRT
<213> Homo sapiens

<400> 2
Met Gly Ala Leu Ala Arg Ala Leu Leu Leu Pro Leu Leu Ala Gln Trp
1 5 10 15

Leu Leu Arg Ala Ala Pro Glu Leu Ala Pro Ala Pro Phe Thr Leu Pro
20 25 30

Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro Thr Pro Gly
35 40 45

Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu Ala Leu Ala Leu
50 55 60

Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala Asn Phe Leu Ala Met
65 70 75 80

Val Asp Asn Leu Gln Gly Asp Ser Gly Arg Gly Tyr Tyr Leu Glu Met
85 90 95

Ile Ile Gly Thr Pro Pro Gln Lys Leu Gln Ile Leu Val Asp Thr Gly
100 105 110

Ser Ser Asn Phe Ala Val Ala Gly Thr Pro His Ser Tyr Ile Asp Thr
115 120 125

Tyr Phe Asp Thr Glu Arg Ser Ser Thr Tyr Arg Ser Lys Gly Phe Asp
130 135 140

Val Thr Val Lys Tyr Thr Gln Gly Ser Trp Thr Gly Phe Val Gly Glu
145 150 155 160

Asp Leu Val Thr Ile Pro Lys Gly Phe Asn Thr Ser Phe Leu Val Asn
165 170 175

Ile Ala Thr Ile Phe Glu Ser Glu Asn Phe Phe Leu Pro Gly Ile Lys
180 185 190

Trp Asn Gly Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys Pro Ser
195 200 205

Ser Ser Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala Asn Ile
210 215 220

Pro Asn Val Phe Ser Met Gln Met Cys Gly Ala Gly Leu Pro Val Ala
225 230 235 240

Gly Ser Gly Thr Asn Gly Gly Ser Leu Val Leu Gly Gly Ile Glu Pro
245 250 255

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 6 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Ser Leu Tyr Lys Gly Asp Ile Trp Tyr Thr Pro Ile Lys Glu Glu Trp
260 265 270
Tyr Tyr Gln Ile Glu Ile Leu Lys Leu Glu Ile Gly Gly Gln Ser Leu
275 280 285
Asn Leu Asp Cys Arg Glu Tyr Asn Ala Asp Lys Ala Ile Val Asp Ser
290 295 300
Gly Thr Thr Leu Leu Arg Leu Pro Gln Lys Val Phe Asp Ala Val Val
305 310 315 320
Glu Ala Val Ala Arg Ala Ser Leu Ile Pro Glu Phe Ser Asp Gly Phe
325 330 335
Trp Thr Gly Ser Gln Leu Ala Cys Trp Thr Asn Ser Glu Thr Pro Trp
340 345 350
Ser Tyr Phe Pro Lys Ile Ser Ile Tyr Leu Arg Asp Glu Asn Ser Ser
355 360 365
Arg Ser Phe Arg Ile Thr Ile Leu Pro Gln Leu Tyr Ile Gln Pro Met
370 375 380
Met Gly Ala Gly Leu Asn Tyr Glu Cys Tyr Arg Phe Gly Ile Ser Pro
385 390 395 400
Ser Thr Asn Ala Leu Val Ile Gly Ala Thr Val Met Glu Gly Phe Tyr
405 410 415
Val Ile Phe Asp Arg Ala Gln Lys Arg Val Gly Phe Ala Ala Ser Pro
420 425 430
Cys Ala Glu Ile Ala Gly Ala Ala Val Ser Glu Ile Ser Gly Pro Phe
435 440 445
Ser Thr Glu Asp Val Ala Ser Asn Cys Val Pro Ala Gln Ser Leu Ser
450 455 460
Glu Pro Ile Leu Trp Ile Val Ser Tyr Ala Leu Met Ser Val Cys Gly
465 470 475 480
Ala Ile Leu Leu Val Ile Val Leu Leu Leu Pro Phe Arg Cys
485 490 495
Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu Ser Ser Leu
500 505 510
Val Arg His Arg Trp Lys
515

<210> 3
<211> 2070
<212> DNA
<213> Homo sapiens

<400> 3
atggcccaag ccctgcctg gtcctgtctg tggatgggog cgggagtgtct gactgcccac 60
ggcaccacgac acggcatccg gctgcctgtcg cgccatggccgc tggggggcgc cccctgggg 120

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 7 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

ctgcggctgc	cccgaggagac	cgacgaagag	cccgaggagc	ccggccggag	gggcagcttt	180
gtggagatgg	tggacaacct	gaggggcaag	tggggcagg	gctactacgt	ggagatgacc	240
gtgggcagcc	ccccgcagac	gctcaacate	ctggtgata	caggcagcag	taactttgca	300
gtgggtgtg	ccccccaccc	cttcttgcata	cgctactacc	agaggcagct	gtccagcaca	360
tacgggacc	tccggaaagg	tgtgtatgt	ccctacaccc	agggcaagt	ggaaggggag	420
ctggggcattc	acctggtaag	catccccat	ggccccaacg	tcactgttgt	tgccaaacatt	480
gtgtgcata	ctgaatoaga	caagtttctt	atcaacggct	ccaaactggga	aggcatactg	540
gggtgtggct	atgtgtggat	tgcggggct	gacgactccc	tggagcattt	ctttgactot	600
ctggtaaagc	agaccacacgt	tcccaaccc	tttccctgc	agctttgtgg	tgctggcttc	660
ccccctcaacc	agtctgaagt	gtgggcctc	gtcgaggaga	gcatgtat	tggaggatata	720
gaccactcgc	tgtacacagg	cagtctctgg	tatacaccca	tccgggggaa	gtggatttat	780
gaggteatca	tttgtgggtt	ggagatcaat	ggacaggata	tggaaatgg	ctgoaaggag	840
tacaactatg	acaagagcat	tgtggacagt	ggcaccacca	actttcgtt	gcccaagaea	900
gtgtttgaag	ctgcagtcaa	atccatcaag	gcagcctct	ccacggagaa	gttccctgt	960
ggtttctggc	taggagagca	gtgggtgtgc	tggcaagcag	gcaccacccc	ttggAACATT	1020
ttccceagtca	tetcactcta	cctaattgggt	gaggttacca	accagtcctt	ccgcataacc	1080
atcccttccgc	agcaataacct	ggggccagtg	gaagatgtgg	ccacgtccca	agacgactgt	1140
tacaagtttgc	ccatotcaca	gtcatccacg	ggcactgtta	tgggagotgt	tatcatggag	1200
ggttttacg	ttgttttta	tccggcccg	aaacgaattt	gtttgttgt	cagcgcttgc	1260
catgtgcacg	atgagttca	gaeggcagcg	gtggaggccc	ctttgtca	tttggacatg	1320
gaagactgtg	gttacaacat	tccacagaca	gttgactcaa	ccctcatgac	catagcttat	1380
gtcatggctg	ccatctgcgc	cctttcatg	ctggcaactt	gcctcatggt	gtgtcaagtgg	1440
cgctgcctcc	gtgcctgcg	ccacgcacat	gttgactttt	ctgtatgcac	ctccctgtgt	1500
aagttagggag	ccccatgggc	agaagataga	gttcccttg	gaccacaccc	ccgtggttca	1560
ctttggtcac	aagttaggaga	cacagatggc	acctgtggcc	agacgacoto	aggacccctcc	1620
ccacccacca	aatgcctctg	ccttgtatgga	gaaggaaaag	gtggcaagg	tgggtccag	1680
ggactgtacc	tgttagaaac	agaaaaagaga	agaaaaagac	actctgttgt	cgggaaatact	1740
cttggtcaco	tcaaatttta	gtcgggaaat	tctgttgtt	aaaacttcag	ccctgaacct	1800
ttgtccacca	ttccctttaaa	ttcttcaccc	caaagtattt	tttttttttt	agtttcagaa	1860
gtactggcat	cacacgcagg	ttacccggc	gtgtgtccct	gtggtaacct	ggcagagaag	1920
agaccaagct	tgtttccctg	ctggccaaag	ttagttagg	aggatgcaca	gtttgttatt	1980
tgcttttagag	acagggactg	tataaacaag	cctaacattt	gtgcacaaat	tgccttttgc	2040

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 8 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

attaaaaaaaaaaaaaaaaaaaaaaa

2070

<210> 4
<211> 501
<212> PRT
<213> Homo sapiens

<400> 4

Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
1 5 10 15

Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
20 25 30

Gly. Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
35 40 45

Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
50 55 60

Asp. Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65 70 75 80

Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
85 90 95

Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
100 105 110

Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
115 120 125

Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
130 135 140

Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145 150 155 160

Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
165 170 175

Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
180 185 190

Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
195 200 205

Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 9 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

210 215 220

Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
225 230 235 240

Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
245 250 255

Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
260 265 270

Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
275 280 285

Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
290 295 300

Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
305 310 315 320

Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
325 330 335

Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
340 345 350

Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
355 360 365

Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
370 375 380

Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
385 390 395 400

Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
405 410 415

Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu
420 425 430

Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro
435 440 445

Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala
450 455 460

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 10 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp
465 470 475 480

Arg Cys Leu Arg Cys Leu Arg Gln Gln His Asp Asp Phe Ala Asp Asp
485 490 495

Ile Ser Leu Leu Lys
500

<210> 5
<211> 1977
<212> DNA
<213> Homo sapiens

<400> 5
atggcccaag ccctgcctg gctctgtc tggatggcg cgggagtgt gcctgcac 60
ggcacccago aeggcatecg gctgcccccg cgcaggccc tggggggcg cccctgggg 120
ctgcggotgc cccgggagac cgacgaagag cccgaggagc cggccggag gggcagctt 180
gtggagatgg tggacaaact gaggggcaag tcggggcagg gctactaact ggagatgacc 240
gtggggcagac cccggcagac gotcaadatc ctgggtggata cggcagcag taacttgca 300
gtgggtgtcg ccccccaccc ctgggtgtcg ctggatcacc agggcagct gtccagcaca 360
tacegggacc tceggaaagg tggatgtcg ctggatcacc agggcaagt ggaagggag 420
ctggggcaccg acetggtaag catccccat ggcggccacg tggatgtcg tgccaaacatt 480
gotggccatca ctgaatcaga caatggatc atcaacggctt ccaactggga aggcatctcg 540
gggctggct atggtagat tggcaggcatt tggatgtcg gtttccccc caaccagct 600
gaagtgtcg cctgtgtgg agggagcatg atcattggag gtatcgacca ctgcgtgtac 660
acagggatc tetgttatc accatccgg cggggatgtt attatgggt gatcatgttg 720
cgggtggaga tcaatggaca ggatctgaaa atggactgca aggatcaca ctatgacaag 780
agcattgtggac acatggccac cacaacattt ctgggtccca gggaaatgtt tgaatgtca 840
gtcaaatcca tcaaggcage ctggatccacg gagaagttcc ctgtatggtt ctggcttagga 900
gagcagttgg tggatgtggca agaaggccac acccccttggaa acattttc acgtcatctca 960
ctctactcaa tgggtggatgt tacaatggatc tccatccgg tccatccatc tccgcagca 1020
tacctggcc cagtggaga tggatgtggccacg tcccaagacg actgttacat gtttgcattc 1080
tcacagtcat ccacggccac tggatgtggaa gtttgcattca tggatgttgc ctacgttgc 1140
tttgcattgg cccggaaaacg aattggctt gtttgcattt gtttgcattt gtttgcattt gtttgcattt 1200
ttcaggccgg cggcggtgg aggccctttt gtcaatggatc acatggaaaga ctgtggatc 1260
aacatccac agacatggca gtcaatccatc atggatccatc ctatgtcat ggctgcattc 1320
tgcgccttc tcaatgtgtcc acatgtgtcc atggatgtgtc agtggcgctg cctccgtgc 1380
ctgcgcacg agcatgtgtca ttttgcattt gacatctcc tggatgtgtc aggaggccca 1440
tggcggaaatg atagatggatc ccctggacca caccctggatc gtttgcattt gtcacaatgt 1500
ggagacacag atggacacccgtt tggatgtgtcc acatggatc ctttgcattt caccatgtc 1560
ctctgccttgg tggatgtggaaaaggctgg caagggtggatc tccatggatc gtacatgttag 1620
gaaacagaaa agagagaaaa gaagcactt gtttgcattt gtttgcattt gtttgcattt 1680
tttaatgtgg gaaatgttgc tggatgtggaaa ttcacccgtt gtttgcattt gtttgcattt 1740
tttaatgttgc caacccaaatggatgtggaaa ttttgcattt gtttgcattt gtttgcattt 1800
ggcaggatcc tggatgtgtcc tccatggatc acatggatc agaaggaccc gtttgcattt 1860
ccctgtgtcc caaaggatcc ttttgcattt gtttgcattt gtttgcattt gtttgcattt 1920
gactgtatcaa acaaggatcc ttttgcattt gtttgcattt gtttgcattt gtttgcattt 1977

<210> 6
<211> 476
<212> PRT
<213> Homo sapiens

<400> 6

Met Ala Gln Ala Leu Pro Trp Leu Leu Trp Met Gly Ala Gly Val
1 5 10 15

Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 11 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

20 35 30

Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
35 40 45

Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
50 55 60

Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65 70 75 80

Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
85 90 95

Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
100 105 110

Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
115 120 125

Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
130 135 140

Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145 150 155 160

Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
165 170 175

Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Leu Cys Gly
180 185 190

Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly
195 200 205

Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu
210 215 220

Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val
225 230 235 240

Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr
245 250 255

Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu
260 265 270

Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser
275 280 285

Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val
290 295 300

Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser
305 310 315 320

Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile
325 330 335

Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln
340 345 350

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 12 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val
355 360 365

Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala
370 375 380

Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu
385 390 395 400

Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu
405 410 415

Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser Thr Leu Met Thr
420 425 430

Ile Ala Tyr Val Met Ala Ala Ile Cys Ala Leu Phe Met Leu Pro Leu
435 440 445

Cys Leu Met Val Cys Gln Trp Arg Cys Leu Arg Cys Leu Arg Gln Gln
450 455 460

His Asp Asp Phe Ala Asp Asp Ile Ser Leu Leu Lys
465 470 475

<210> 7
<211> 2043
<212> DNA
<213> *Mus musculus*

<400>	7	atggccccccag	cgtctgeactg	gtcttcgtcta	tgggtgggct	cgggaatgtct	gcctggccag	60
ggaaacccatc		tggcataccg	gctggccccc	cggaggcc	ttggcaggcc	acocctggcc	120	
cttagggctgc		ccccgggagac	tgaaggagaa	toggaggagc	ctggccggag	aggcagctt	180	
gtggagatgg		tggacaacct	gagggaaaag	tccggccagg	gtctactatgt	gagatgaacc	240	
gttggcgacc		ccccacacag	gtcteacatc	ctggtgacaa	cgggcagttag	taacttgcac	300	
gtgggggctg		ccccacaccc	tttcctgtcat	cgtaactacc	aggggcagct	gtccagcacca	360	
tatcgagacc		tccggaaaagg	tgtgttatgt	cccttacacc	aggggcagttgt	ggagggggaa	420	
ctgggcaccc		accttggtag	catccctcat	ggccccaac	tcaactgtcg	tgccaaacatt	480	
gttgtccatc		ctgaatcgaa	caagtcttc	atcaatgttt	cacaatggga	gggcatacttca	540	
ctgggtggct		atgtcgat	tgccggcc	gacacttt	ttggagccctt	ctttgactcc	600	
ctggtaaaggc		agacccatc	tcccaaaatc	ttttccctgtt	agcttgcgttgg	cggtggcttc	660	
coccctcaacc		agacccgggg	actggccctcg	gtgggaggg	gatgtatcat	tgggtgtatc	720	
gaccactcgc		tatacacaagg	cagttcttgg	tacacaccc	tccggggggaa	gtgttattat	780	
gaagtgatca		ttgttaetgt	ggaaatcaat	ggtcaagatc	taaagatggga	ctgcaaggag	840	
tacaactaeg		acaagacag	tgtggacagt	ggggacacca	accttgcctt	gccccaaagaad	900	
gtathttgaag		ctggcgtaa	gtccatcaag	gcacgcctt	cgacggagaa	gttccggat	960	
gggttttggc		tagggggca	gtgttgtgtc	tgccgaacag	gcacgacccc	ttggaaacat	1020	
ttccccagtc		tttcaactt	cctctatgggt	gaagtccac	atcagtcctt	ccgcatacc	1080	
atcccttcctc		agcaataacct	acggccgggt	gaggacgtgg	ccacgttcca	agacgactgt	1140	
tacaaggteg		ctgtcteaca	gtctatccac	ggcaactgtta	ttggagccgt	catcatggaa	1200	
ggttttctatg		tcgttttctga	tcgagccccg	aaggcgttgc	gttttgcgttgc	cagcgttgc	1260	
catgtcgacat		atgatgttcg	gaegggggg	gttgggggttgc	ctttttgttac	ggcagacat	1320	
gaagactgtg		gtctacacat	tcccccacaca	gttggttgc	cattttatgtac	catatgttata	1380	
gtcatggccg		ccatcttgcg	ccttttcatg	ttgccacttgc	gccttgcattgt	atgtcagtgg	1440	
cgtctgcgttc		gttgccttgcg	ccacccacac	gtgtactttgc	ctgtatgcacat	ctccotgttcc	1500	
aagttaaggg		gtctgtgggc	atgatgttgc	gaeggcccttgc	ggacacatct	gggtgttcc	1560	
cttttgtcata		atgatgttgc	gtctatgtat	gttgggggttgc	ccagagccac	tcaggaccc	1620	
caccaaccc		ccaaatgttc	tggcggtac	gaacagagaa	atcaggcaca	ctggattata	1680	
gggtttgcac		ctgttaggaca	caggaggggg	aaggaaaggc	cgttttgtgttgc	ggcagatata	1740	
ccttaggcac		cacaactatg	atgttggaaat	tttgcgttttgc	geagtcgttgc	ccotgttcc	1800	
ctggccagca		tccttttagat	tctccaaacct	aaatatttttgc	ttatgttcc	ccagaagttac	1860	

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 13 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

tggcgatcata ctcaggatc acggcatgtg tccctgttgt accctggcag agaaaggccc 1920
aatcttattc cctgtggcc aaagttagca gaagaagggtg aagtttgccca gttgcttttg 1980
tgataggac tgcagactca aagctacact ggtacaaaaga ctgcgtcttg agataaaca 2040
gaa 2043

<210> 8
<211> 501
<212> PRT
<213> Mus musculus

<400> 8
Met Ala Pro Ala Leu His Trp Leu Leu Trp Val Gly Ser Gly Met
1 5 10 15

Leu Pro Ala Gln Gly Thr His Leu Gly Ile Arg Leu Pro Leu Arg Ser
20 25 30

Gly Leu Ala Gly Pro Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
35 40 45

Glu Glu Ser Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
50 55 60

Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65 70 75 80

Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
85 90 95

Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
100 105 110

Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
115 120 125

Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
130 135 140

Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145 150 155 160

Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
165 170 175

Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
180 185 190

Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Ile Pro
195 200 205

Asn Ile Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
210 215 220

Thr Glu Ala Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
225 230 235 240

Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
245 250 255

Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
260 265 270

Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 14 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

275	280	285
Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala		
290	295	300
Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp		
305	310	315
Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr		
325	330	335
Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val		
340	345	350
Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg		
355	360	365
Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala		
370	375	380
Val Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu		
385	390	395
Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala		
405	410	415
Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu		
420	425	430
Gly Pro Phe Val Thr Ala Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro		
435	440	445
Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala		
450	455	460
Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp		
465	470	475
Arg Cys Leu Arg Cys Leu Arg His Gln His Asp Asp Phe Ala Asp Asp		
485	490	495
Ile Ser Leu Leu Lys		
500		

<210> 9
<211> 2088
<212> DNA
<213> Homo sapiens

<400> 9
atgctgcccg gtttggcaact gtcctgtcg ggccctggaa cggctgggc gctggaggta 60
cccactgatg gtaatgctgg ctgtgtggct gaacccccaga ttgcctatgtt ctgtggcaga 120
ctgaacatgc acatgaatgt ccagaatggg aagtgggatt cagatccatc agggaccaaaa 180
acctgcattg ataccaaggg aggccatctg cagtattgcc aagaagtcta ccctgtaactg 240
cagatccatca atgtggtaga agccaaccaa ccagtgacca tccagaactg gtgcacgcgg 300
ggcgcgaagc atgtcaagac ccataccccac ttgtgtattt ccttcccgctg cttatgttgg 360
gagtttggaa gtgtatggccct ttcgttttccct gacaagtgtca aatttttaca ccaggagagg 420
atggatgttt gcaaaactca ttttcacttg cacacccgtcg cccaaaggagac atgcagtgg 480
aaggatccaa acttgcattga ctacggcatgt ttgtgtccct gccggaaatgtca caagtccgt 540
ggggtagagt ttgtgtttg cccactggct gaagaaaatgt acaatgtgg ttctgtgtat 600
gcggaggagg atgactcgga tgtctgggtgg ggcggagcag acacagacta tgcagatggg 660
agtgaagaca aagttagtga agtagcagag gaggaagaag tggctgagggt ggaagaagaa 720

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 15 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

gaagccgatg atgacgagga cgatgaggat ggtgatgagg tagaggaaga ggctgaggaa 780
ccctacgaag aagcacacaga gagaaccacc accattgcac ccaccacacc caccaccaca 840
gagtctgtgg aagggctgtt tcgaggatcct acacacagcg ccagtacccc tgatgcgtt 900
gacaagtgtt ctagacaco tggggatgag aatgaacatc tccatccca gaaaggccaa 960
gagaggcttg aggccaagca ccgagagata atgtcccagg tcatgagaga atggaaagag 1020
gcagaacgtc aagcaaagaa ctgtctaaa getgataaga aggagttat ccagcatttc 1080
caggagaaaag tggaatcttt ggaacaggaa gcagccaaacg agagacagca gctggggag 1140
acacatccatgg ccagactgtt gggccatgtc aatgaccgcg gccgcctggc cctggagaac 1200
tacatccacg ctctcgccg tggatccctt cggccctcgcc acgtttccaa tatgttaaag 1260
aagtatgtcc ggcgagaaca gaaggacaga cggcacaccc taaaggatcc ttccatgtt 1320
cgcatgggtt atcccaagaa agccgttcg atccggatccc aggttatgac acacccctgt 1380
gtgattttatg agcgcgttca tcagtttoto tccctgtctt acaacgttcc tgcaatggcc 1440
gaggagatcc aggtttagt tgatgatgtt cttccatggaa agcaaaacta ttccatgtt 1500
gtcttggcca acatgattag tgaacccagg atccatgttcc gaaacgttcc ttcatgttcc 1560
tctttgaccc aaacgaaaac caccgtggg ctccctcccg tgaatggaga gttcagccgt 1620
gacgatctcc agccgtggca ttcttttggg gtcgtactgtg tgccagccaa cacagaaasac 1680
gaagttggcc ctgttgcgtt ccgcctgtgtt gccgaccggag gactgaccac tccgaccagg 1740
tctgggggttca acaatataa gacggaggag atcttgcgtt tgaagatggaa tggaaatatto 1800
cgacatgtact caggatatgtt agttcatcat caaaaaattgg tggatccatgttcc agaagatgtt 1860
ggttcaaca aagggttcaat cattggatcc atggggccg gtgttgcgtt agcgacatgtt 1920
atcgttccatca cctttgtgtt gtcgttgcgtt aaacgttaca catccattca tcatgttgcgtt 1980
gtggaggatcc acgcgcgtgtt caccggag gagegcccacc tgccatggaa agcagccaaac 2040
ggctacgaaa atccaaaccta caagtccctt gagegatgttcc agaacttag 2088

<210> 10

<211> 695

<212> PRT

<213> Homo sapiens

<400> 10

Met Leu Pro Gly Leu Ala Leu Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
20 25 30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 16 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 230 235 240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260 265 270

Ala Thr Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275 280 285

Val Pro Thr Thr Ala Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu
290 295 300

Glu Thr Pro Gly Asp Glu Asn Glu His Ala His Phe Gln Lys Ala Lys
305 310 315 320

Glu Arg Leu Glu Ala Lys His Arg Glu Arg Met Ser Gln Val Met Arg
325 330 335

Glu Trp Glu Glu Ala Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp
340 345 350

Lys Lys Ala Val Ile Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu
355 360 365

Gln Glu Ala Ala Asn Glu Arg Gln Gln Leu Val Glu Thr His Met Ala
370 375 380

Arg Val Glu Ala Met Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn
385 390 395 400

Tyr Ile Thr Ala Leu Gln Ala Val Pro Pro Arg Pro Arg His Val Phe
405 410 415

Asn Met Leu Lys Lys Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His
420 425 430

Thr Leu Lys His Phe Glu His Val Arg Met Val Asp Pro Lys Lys Ala
435 440 445

Ala Gln Ile Arg Ser Gln Val Met Thr His Leu Arg Val Ile Tyr Glu
450 455 460

Arg Met Asn Gln Ser Leu Ser Leu Leu Tyr Asn Val Pro Ala Val Ala
465 470 475 480

Glu Glu Ile Gln Asp Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn
485 490 495

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 17 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Tyr Ser Asp Asp Val Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser
500 505 510

Tyr Gly Asn Asp Ala Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Thr
515 520 525

Val Glu Leu Leu Pro Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln
530 535 540

Pro Trp His Ser Phe Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn
545 550 555 560

Glu Val Glu Pro Val Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr
565 570 575

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser
580 585 590

Glu Val Lys Met Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val
595 600 605

His His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys
610 615 620

Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala Thr Val
625 630 635 640

Ile Val Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile
645 650 655

His His Gly Val Val Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg
660 665 670

His Leu Ser Lys Met Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys
675 680 685

Phe Phe Glu Gin Met Gln Asn
690 695

<210> 11
<211> 2088
<212> DNA
<213> Homo sapiens

<400> 11
atgctccccg gttggcaact gtcctgtcg gcegcctgga cggctcgccc gctggaggta 60
ccaaactgtg gtaatgtctgg octgtctggc gaacccctaga ttgcctatgt ctgtggcaga 120
ctgaacatgc acatgtatgt ccogaatggg aagtgggatt cagatccatc agggaccaaa 180
acatccatgc ataccaagga aggcatccgt cagtattgcc aagaagtcta ccctgaactg 240
cagatcacca atgttgtaga accaaacoaa ccagtgcacca tccagaaatgt gtgcaagegg 300
ggccgaaagc agtgcacagac ccatccccac ttgtgtattc cttacgcgtg ottagtttgt 360
gagtttgtaa gtgtatgcctc ttctgttctt gacaagtgcata aatttttaca ccaggagagg 420
atggatgttt gegaactca ttctcaactgg cacaccgtcg ccaaagagac atgcagtgg 480
aagagtatcca acttgcattga ctacggcatg ttgtgtccct gcggaatgtca caagtccgt 540
ggggtagagt ttgtgtgttg cccactggct gaagaaaatgt acaatgttggta ttctgtgtat 600
ggcgaggagg atgactcgga tgcgtgtgg ggccggacag acacagacta tgcagatggg 660
agtgaagaca aatgtatgtaa atgacgagag gaggtatgttgg tggctgggggt ggaagaagaa 720
gaagccgtatc atgacgagga cgtatggat ggtgtatgttgg tagaggaaaga ggctgtggaa 780
ccotacgaag aatccacacaga gagaaccacc agcattgcacca ccaccacacc caccaccaca 840
gagtcgttgg aatgtatgttgg tgcgtatgttgg acaacacacgc ccaatgcaccc tgatgcgtt 900

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 18 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

gacaaggatc tcgagacacc tggggatgag aatgaacatg cccatttcca gaaagccaaa 960
gagaggctt aggccaagca ctagagagaga atgtcccagg tcatgagaga atgggaagag 1020
gcagaacgtc aagcaagaa ctgcctaaa gtcgtataa aggcgtttt ccgcatttc 1080
caggagaaag tggaaatctt ggaacaggaa gcaagccaaacg agagacacg gctggggag 1140
acacacatgg cctagatgttgc aatgaccgcg cccgcctgac cctggagaac 1200
tacatcaccc ctgcggc tgcgttctt cggcctcgac acgtgttcaa tatgttaaag 1260
aagtatgtcc gecgacaaca gaaggacaga cagcacaccc taaaggattt cgagcatgtg 1320
cgcatgtgg atccccaaaggaa agccgcgtc atccgggtcc aggttatgac acaccccttgt 1380
gtgttatttgc aegcatgaa tcgttcttc tccctgttca acaacgtgcc tgcaatggcc 1440
gaggagatc aggtatgttgc tgcgttgc ttcagaaag agcaaaaacta ttcaatgtac 1500
gtcttggcca acatgattttg tgaaccaagg atcagttacg gaaacgtgc ttcatgcca 1560
tctttgaccg aaacgaaaac caccgtggag ctcccttcccg tgaatggaga gtcaatggcc 1620
gacgatotcc agccgtggca ttcttttggg gtcgttgc tgcgttgc ttcagccaa cacagaaaaac 1680
gaagtggcgc ctgttgatgc cccgcctgtc gcccggcgg gactgttgc tgcgttgc 1740
tctgggttgc caaatatcaa gacggaggag atctctgttgc tgaatgttgc tgcgttgc 1800
cgacatgact caggtatgttgc agtttcatcat caaaaattgg tgcgttgc tgcgttgc 1860
gttcaacaaca aagggtgttgc ttcatgttgc atggtggccg gtgttgc tgcgttgc 1920
atgttgc ttcatgttgc aacatgttgc ttcatgttgc aacatgttgc ttcatgttgc 1980
gtggagggttgc acgcgcgtgttgc ttcatgttgc gacgttgc ttcatgttgc 2040
ggctacgaaa atccaaaccta caagttctt gacgttgc agaacttgc 2088

<210> 12
<211> 695
<212> PRT
<213> Homo sapiens

<400> 12
Met Leu Pro Gly Leu Ala Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
20 25 30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 19 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 230 235 240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260 265 270

Ala Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275 280 285

Val Pro Thr Thr Ala Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu
290 295 300

Glu Thr Pro Gly Asp Glu Asn Glu His Ala His Phe Gln Lys Ala Lys
305 310 315 320

Glu Arg Leu Glu Ala Lys His Arg Glu Arg Met Ser Gln Val Met Arg
325 330 335

Glu Trp Glu Glu Ala Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp
340 345 350

Lys Lys Ala Val Ile Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu
355 360 365

Gln Glu Ala Ala Asn Glu Arg Gln Gln Leu Val Glu Thr His Met Ala
370 375 380

Arg Val Glu Ala Met Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn
385 390 395 400

Tyr Ile Thr Ala Leu Gln Ala Val Pro Pro Arg Pro Arg His Val Phe
405 410 415

Asn Met Leu Lys Lys Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His
420 425 430

Thr Leu Lys His Phe Glu His Val Arg Met Val Asp Pro Lys Lys Ala
435 440 445

Ala Gln Ile Arg Ser Gln Val Met Thr His Leu Arg Val Ile Tyr Glu
450 455 460

Arg Met Asn Gln Ser Leu Ser Leu Leu Tyr Asn Val Pro Ala Val Ala
465 470 475 480

Glu Glu Ile Gln Asp Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn
485 490 495

Tyr Ser Asp Asp Val Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser
500 505 510

Tyr Gly Asn Asp Ala Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Thr

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 20 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

515	520	525
Val Glu Leu Leu Pro Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln		
530	535	540
Pro Trp His Ser Phe Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn		
545	550	555
Glu Val Glu Pro Val Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr		
565	570	575
Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser		
580	585	590
Glu Val Asn Leu Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val		
595	600	605
His His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys		
610	615	620
Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala Thr Val		
625	630	635
Ile Val Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile		
645	650	655
His His Gly Val Val Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg		
660	665	670
His Leu Ser Lys Met Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys		
675	680	685
Phe Phe Glu Gln Met Gln Asn		
690	695	

<210> 13
<211> 2088
<212> DNA
<213> Homo sapiens

<400> 13
atgtccccg gtttggact gtcctgtcg gcccgcctgga cgggtcgccc gctggaggta 60
cccaactgtat gtaatgtctgg ctgtgtggct gaaccccaaga ttgcattgtt ctgtggcaga 120
ctgaacatgc acatgaatgt ccagaatggg aagtgggatt cagatccatc agggaccsaa 180
acctgcattg ataccaagga aggcatctg cagtattggc aagaagtcta ccctgaactg 240
cagatccatc atgtgttgc aagccaaccaa ccagtgcacca tccagaactg gtgcaagcgg 300
ggccgcacgc agtgcacagac ccatccacae ttgtgtatc cttacccgtg ctttagttgt 360
gagtttgtaa gtgtatccct tttttttctt gacaagtgc aatttttaca ccaggagagg 420
atggatgtt gcgaaactca ttttcaactgg cacacccgtcg ccaaagagac atgcagtggag 480
aagagtacca acttgcattga ctacggcatg ttgtgtgttgc gcgaaatggc caagttccgc 540
gggttagagt ttgtgtgttgc cccactgtgtc gaagaaaatgtg acaatgttgc ttctgtgtat 600
ggccggaggagg atgtgcggta tgcttgggtgg ggccggaggcgc acacagacta tgccatgtgg 660
agtgaagaca aagttagtgc aatgtgcggag gaggagaagg tggctggagg ggaagaaagaa 720
gaaggccatgt atgcggaggat cgtatggat ggtgtatgggg tagaggaaaga gggtggggaa 780
ccctacggag aagccacaga gagaaaccacc accatgtccca ccaccaccc caccacccaca 840
gagtctgtgg aagagggtgtt tcgatgttcc acacacggcgc ccgttccccc tgatgcgtt 900
gacaatgtatc tcgatgttcc acacacggcgc ccacatgttccca gaaaggccaaa 960
gagaggcttg aggccaaagca ccggaggagaga atgtcccagg tcatggagaga atggaaagag 1020
gcagaacgtc aagcaagaaat cttgcataaa gctgtataaga aggcgtttat ccacgttttc 1080
caggagaaag tggatctttt ggaacaggaa gcaggccaaacg agagacacgc gctgggtggag 1140
acacacatgg ccagatgttgc aatgtgcggc gcccgttgc cctggggaaac 1200
tacatcaccc ctgtcgaggc tttttttttt cttttttttt acgtgttcaa tatgtttaag 1260

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 21 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

aagtatgtcc ggcgagaaca gaaggacaga cagcacaccc taaagcattt cgagcatgtg 1320
cgcatggtgg atcccaagaa agccgctcag atccggtccc aggttatgac acacccgt 1380
gtgattatg agcgcgtgaa tcagtctc tcctgtctt acaacgtgcc tgcagtggcc 1440
gaggagatc aggatgaaat tgatgactg ctccagaaaagg agcaaaaacta ttcatgtac 1500
gtcttgccca acatgattag tgaaccaagg atcaagatgc ttcatgtcc 1560
tctttgaccg aaacaaaaac cacccgtggag ctccatcccg tgaatggaga gttcagctg 1620
gaatgttcc agocgtggca ttcttttggg gtcgtacttg tgccagccaa cacaaaaac 1680
gaagtttggc ctgttgatgc ccgcctgtc gcccgtggag gactgaccac tcgaccagg 1740
tctgggtga caaatatcaa gacggaggag atctctgtaa tgaatgtgg tgcagaattt 1800
cgacatgact caggatataa agttcatcat caaaaatttg tggatgttgc agaagatgtg 1860
ggttcaaca aaggtaata cattggactc atggggccgg gtgttgtcat agcgacagt 1920
atcttcatca ccttggatg gtcgttgcgaa aacagtaca catccattca tcatgggtgtg 1980
gtggaggtt acgcgcgtgt caccccaagag gagogccacc tggccaaatg gcaagcagaac 2040
ggctacaaa atccaaaccta caagtctttt gaggcagatgc agaactag 2088

<210> 14
<211> 695
<212> PRT
<213> Homo sapiens

<400> 14
Met Leu Pro Gly Leu Ala Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15
Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
20 25 30
Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
35 40 45
Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60
Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80
Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95
Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110
Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125
Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140
Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160
Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175
Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190
Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205
Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 22 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Val Val Glu Val Ala Glu Glu Glu Glu Val Ala Glu Val Glu Glu
225 230 235 240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Ser Ile
260 265 270

Ala Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275 280 285

Val Pro Thr Thr Ala Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu
290 295 300

Glu Thr Pro Gly Asp Glu Asn Glu His Ala His Phe Gln Lys Ala Lys
305 310 315 320

Glu Arg Leu Glu Ala Lys His Arg Glu Arg Met Ser Gln Val Met Arg
325 330 335

Glu Trp Glu Glu Ala Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp
340 345 350

Lys Lys Ala Val Ile Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu
355 360 365

Gln Glu Ala Ala Asn Glu Arg Gln Gln Leu Val Glu Thr His Met Ala
370 375 380

Arg Val Glu Ala Met Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn
385 390 395 400

Tyr Ile Thr Ala Leu Gln Ala Val Pro Pro Arg Pro Arg His Val Phe
405 410 415

Asn Met Leu Lys Lys Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His
420 425 430

Thr Leu Lys His Phe Glu His Val Arg Met Val Asp Pro Lys Lys Ala
435 440 445

Ala Gln Ile Arg Ser Gln Val Met Thr His Leu Arg Val Ile Tyr Glu
450 455 460

Arg Met Asn Gln Ser Leu Ser Leu Tyr Asn Val Pro Ala Val Ala
465 470 475 480

Glu Glu Ile Gln Asp Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn
485 490 495

Tyr Ser Asp Asp Val Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser
500 505 510

Tyr Gly Asn Asp Ala Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Thr
515 520 525

Val Glu Leu Leu Pro Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln
530 535 540

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 23 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Pro Trp His Ser Phe Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn
545 550 555 560
Glu Val Glu Pro Val Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr
565 570 575
Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser
580 585 590
Glu Val Lys Met Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val
595 600 605
His His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys
610 615 620
Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala Thr Val
625 630 635 640
Ile Phe Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile
645 650 655
His His Gly Val Val Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg
660 665 670
His Leu Ser Lys Met Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys
675 680 685
Phe Phe Glu Gln Met Gln Asn
690 695

<210> 15
<211> 2094
<212> DNA
<213> Homo sapiens

<400> 15
atgctggccg gtttggcaact gtcctgtctg gccgcctggga cggctcgggc gctggaggt 60
cccactgtat gtaatgttgg ctgtgtgggt gaacccccaga ttgcctatgtt .ctgtggcaga 120
ctgaacatgc acatgtatgt ccagaatggg aagtgggatt cagatccatc agggaccaaa 180
acctgcattt ataccaagga aggcatctg cagtattgcc aagaagtcta ccttgaactg 240
cagatcacca atgttgttga agccaaccaa ccagtgtacca tccaggaaatgttgcgt gtgcacagg 300
ggccgcagaac agtgcaagac ccatacccaa ttgtgttgcctt cttaccgtgt cttagtgtt 360
gagtttgtaa gtgtatgcctt ttcgtttccctt gacaagtgtca aatttttaca ccaggagagg 420
atggatgtttt gcgaaactca ttttcaactgg cacaccgtcg ccaaagagac atgcagtgg 480
aagagtacca acttgcatttgc ctacggcgatg ttgtgttgcctt ggggttgttga caagttccga 540
ggggtagagt ttgtgttgtt ccaatgtgttgcgtt gaagaaaatgttgc acaatgttgc ttctgtgtat 600
goggaggagg agtacttgcga tggttgttgcggcgagcag acacagacta tgcatgtgg 660
agtgaagaca aagttagttaga agtagcagag gaggaagaag tggctgaggt ggaagaagaa 720
gaagccgtat atgacggaga cgtggaggat ggtgtatggg tagaggaaaga ggctggggaa 780
ccctacgaag aagecacacca gagaaccacc acgttgcacca ccacccacac caccacaca 840
gagtctgtgg aaggggttgtt tccatgttccctt acaacagcag ccagtacccc tggatgcgtt 900
gacaagtatc tcgagacacc tggggatgttgc aatgttgcgttccca gaaaggccaaa 960
gagaggctt aggccaaagca ccggagagaga atgttccaggat tcatgttgc aatggaaagag 1020
gcagaaatgc aagcaaaagaa ctgttgcataaa gctgtatgttgc aaggcatgtt ccacgttttc 1080
oaggagaaaatggatgtttt ggaacaggaa ccggccaaacggcc aatgttgcacca gctgggtggag 1140
acacacatgg ccaggtggaa agccatgttgc aatgttgcgttccca gggccctggc cotggagaac 1200
tacatcaccc ctctgcgttgc ttgttgcgttccca gggccctggc acgttgcgttccca tatgttgc 1260
aagtatgtcc ggcgcagaaca gaaggacaga cggccaaaccc taaaggatttt cggatgttgc 1320
ccgtatgtgg atcccaagaa agccgttgcgttccca aggttatgttgc acacctccgt 1380
gtgattttatg agcgtgttgc tcatgttgc tccctgttgc acaaacgttgc tggatgttgc 1440
gaggagattc aggtatgttgc tcatgttgc tccctgttgc acaaacgttgc tggatgttgc 1500

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 24 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

gtcttggcca acatgattag tgaaccaagg atcagttacg gaaacgatgc tctcatgcc 1560
tcttgaccg aaacgaaaac caccgtggag ctccctcccg tgaatggaga gttcagcctg 1620
gacgatctcc agccgtggca ttcttttggg gctgactctg tgcoagccaa cacagaaaaac 1680
gaagttgagc ctgttatgc ccgcctctg gccgaccgag gactgaccac tegaccaggt 1740
tctgggttga caaatatcaa gacggaggag atctctgaag tgaagatggta tgcagaattc 1800
cgacatgact caggatatga agttcatcat caaaaatttg tgttcttgc agaagatgtg 1860
ggttcaaca aaggtgcaat cattggactc atggtggcg gtgttgcata agcgcacagtg 1920
atcgtcatca ccttggat gctgaagaag aaacagtaca catccattca tcatggtgtg 1980
gtggagggtt acgcgcgtgt caccggag gagegccacc tgcataatgc geagcagaac 2040
ggctacaaa atccaaccta caagtctt gaggcagatgc agaacaagaa gtag 2094

<210> 16
<211> 697
<212> PRT
<213> Homo sapiens

<400> 16
Met Leu Pro Gly Leu Ala Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
20 25 30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175

Asp. Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 230 235 240

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 25 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260 265 270

Ala Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275 280 285

Val Pro Thr Thr Ala Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu
290 295 300

Glu Thr Pro Gly Asp Glu Asn Glu His Ala His Phe Gln Lys Ala Lys
305 310 315 320

Glu Arg Leu Glu Ala Lys His Arg Glu Arg Met Ser Gln Val Met Arg
325 330 335

Glu Trp Glu Glu Ala Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp
340 345 350

Lys Lys Ala Val Ile Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu
355 360 365

Gln Glu Ala Ala Asn Glu Arg Gln Gln Leu Val Glu Thr His Met Ala
370 375 380

Arg Val Glu Ala Met Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn
385 390 395 400

Tyr Ile Thr Ala Leu Gln Ala Val Pro Pro Arg Pro Arg His Val Phe
405 410 415

Asn Met Leu Lys Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His
420 425 430

Thr Leu Lys His Phe Glu His Val Arg Met Val Asp Pro Lys Lys Ala
435 440 445

Ala Gln Ile Arg Ser Gln Val Met Thr His Leu Arg Val Ile Tyr Glu
450 455 460

Arg Met Asn Gln Ser Leu Ser Leu Leu Tyr Asn Val Pro Ala Val Ala
465 470 475 480

Glu Glu Ile Gln Asp Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn
485 490 495

Tyr Ser Asp Asp Val Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser
500 505 510

Tyr Gly Asn Asp Ala Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Thr
515 520 525

Val Glu Leu Leu Pro Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln
530 535 540

Pro Trp His Ser Phe Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn
545 550 555 560

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 26 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Glu Val Glu Pro Val Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr
 565 570 575
 Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser
 580 585 590
 Glu Val Lys Met Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val
 595 600 605
 His His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys
 610 615 620
 Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala Thr Val
 625 630 635 640
 Ile Val Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile
 645 650 655
 His His Gly Val Val Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg
 660 665 670
 His: Leu Ser Lys Met Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys
 675 680 685
 Phe Phe Glu Gln Met Gln Asn Lys Lys
 690 695

<210> 17
<211> 2094
<212> DNA
<213> *Homo sapiens*

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 27 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

gacgatctcc agecggtggca ttcttttggg gctgactotg tgccagccaa cacagaaaac 1680
gaagttgagc ctgttgatgc ccgcctgct gcccggccgac gactgaccac tcgaccagg 1740
tctgggttga caaatatcaa gacggaggag atctctgtgg tgaatcttgg tgcagaattc 1800
cgacatgact caggatgtat agttcatcat caaaaattgg tggtttttc agaagatgtg 1860
ggttcaaca aagggtgeaat cattggactc atgggtggcg gtgttgcat agcgacagtg 1920
atcgatcatac ccttggatg gctgtggaaag aaacagtaca catccattca tcattgtgtg 1980
gtggagggtt acgcgcgtgt caccggagag gagcggccacc tggtccaaatgat gcagcagaa 2040
ggctacgaaa atccaaaccta caagttttt gaggcagatgc agaacaagaa gtag 2094

<210> 18
<211> 697
<212> PRT
<213> Homo sapiens

<400> 18
Met Leu Pro Gly Leu Ala Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
20 25 30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 230 235 240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 28 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260 265 270

Ala Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275 280 285

Val Pro Thr Thr Ala Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu
290 295 300

Glu Thr Pro Gly Asp Glu Asn Glu His Ala His Phe Gln Lys Ala Lys
305 310 315 320

Glu Arg Leu Glu Ala Lys His Arg Glu Arg Met Ser Gln Val Met Arg
325 330 335

Glu Trp Glu Glu Ala Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp
340 345 350

Lys Lys Ala Val Ile Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu
355 360 365

Gln Glu Ala Ala Asn Glu Arg Gln Gln Leu Val Glu Thr His Met Ala
370 375 380

Arg Val Glu Ala Met Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn
385 390 395 400

Tyr Ile Thr Ala Leu Gln Ala Val Pro Pro Arg Pro Arg His Val Phe
405 410 415

Asn Met Leu Lys Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His
420 425 430

Thr Leu Lys His Phe Glu His Val Arg Met Val Asp Pro Lys Lys Ala
435 440 445

Ala Gln Ile Arg Ser Gln Val Met Thr His Leu Arg Val Ile Tyr Glu
450 455 460

Arg Met Asn Gln Ser Leu Ser Leu Tyr Asn Val Pro Ala Val Ala
465 470 475 480

Glu Glu Ile Gln Asp Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn
485 490 495

Tyr Ser Asp Asp Val Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser
500 505 510

Tyr Gly Asn Asp Ala Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Thr
515 520 525

Val Glu Leu Leu Pro Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln
530 535 540

Pro Trp His Ser Phe Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn
545 550 555 560

Glu Val Glu Pro Val Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr
565 570 575

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 29 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser
 580 585 590
 Glu Val Asn Leu Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val
 595 600 605
 His His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys
 610 615 620
 Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala Thr Val
 625 630 635 640
 Ile Val Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile
 545 550 555
 His His Gly Val Val Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg
 660 665 670
 His Leu Ser Lys Met Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys
 675 680 685
 Phe Phe Glu Gln Met Gln Asn Lys Lys
 690 695

<210> 19
<211> 2094
<212> DNA
<213> *Homo sapiens*

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 30 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

atcttcatca ccttgggtat gctgaagaag aaacagtaca catccattca tcatggtgtg 1980
gtggagggtt acgcgcgtgt caccccagag gagcgcacc tgcccaagat gcagcagaac 2040
ggctacaaa atccaaaccta caagttttt gagcagatgc agaacaagaa gtag 2094

<210> 20
<211> 697
<212> PRT
<213> Homo sapiens

<400> 20
Met Leu Pro Gly Leu Ala Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
20 25 30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Asn Val Gln
35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160

Dys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 230 235 240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260 265 270

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 31 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Ala Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
 275 280 285
 Val Pro Thr Thr Ala Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu
 290 295 300
 Glu Thr Pro Gly Asp Glu Asn Glu His Ala His Phe Gln Lys Ala Lys
 305 310 315 320
 Glu Arg Leu Glu Ala Lys His Arg Glu Arg Met Ser Gln Val Met Arg
 325 330 335
 Glu Trp Glu Glu Ala Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp
 340 345 350
 Lys Lys Ala Val Ile Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu
 355 360 365
 Gln Glu Ala Ala Asn Glu Arg Gln Gln Leu Val Glu Thr His Met Ala
 370 375 380
 Arg Val Glu Ala Met Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn
 385 390 395 400
 Tyr Ile Thr Ala Leu Gln Ala Val Pro Pro Arg Pro Arg His Val Phe
 405 410 415
 Asn Met Leu Lys Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His
 420 425 430
 Thr Leu Lys His Phe Glu His Val Arg Met Val Asp Pro Lys Lys Ala
 435 440 445
 Ala Gln Ile Arg Ser Gln Val Met Thr His Leu Arg Val Ile Tyr Glu
 450 455 460
 Arg Met Asn Gln Ser Leu Ser Leu Tyr Asn Val Pro Ala Val Ala
 465 470 475 480
 Glu Glu Ile Gln Asp Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn
 485 490 495
 Tyr Ser Asp Asp Val Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser
 500 505 510
 Tyr Gly Asn Asp Ala Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Thr
 515 520 525
 Val Glu Leu Leu Pro Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln
 530 535 540
 Pro Trp His Ser Phe Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn
 545 550 555 560
 Glu Val Glu Pro Val Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr
 565 570 575
 Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser
 580 585 590
 Glu Val Lys Met Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 32 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

595	600	605
His His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys		
610	615	620
Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala Thr Val		
625	630	635
Ile Phe Ile Thr Leu Val Met Leu Lys Lys Gln Tyr Thr Ser Ile		
645	650	655
His His Gly Val Val Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg		
660	665	670
His Leu Ser Lys Met Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys		
675	680	685
Phe Phe Glu Gln Met Gln Asn Lys Lys		
690	695	

<210> 21
<211> 1341
<212> DNA
<213> Homo sapiens

<400> 21
atggctagca tgactggtagt acagcaaattg ggtcgccggat ccacccagca cggcatccgg 60
ctgcocctgo tgaaaggccc gggggggcgc ccctctgggc tggggctgcc cggggagacc 120
gacgaagagc cggaggagcc cgccccggagg ggacgttttggagatgtt ggacaacctg 180
agggggcaagt cggggcaggg ctactacgtg gagatgaccg tggggcagccc cccgcagacg 240
ctcaacatcc tgggtggatac aggccagcaatg aactttgcag tgggtgtcgc cccccacccc 300
tttcctgcatacgtactacca gggcagcgtg tccagcacat accggggactt cgggaagggt 360
gtgtatgtccctacacccca gggcaagtgg gaaggggagc tggggcacgca ctggtaagc 420
atccccccatg gcccccaacgt cactgtgcgt gccaacatgg ctgcacatc tgaatcagac 480
aagtttttca tcaacggctc caactggggaa ggatcttgcggatggatggatggatggatgg 540
ggcaggccctg acgtcccttgc ggacgttttgc tttgactctc tggtaaagca gacccacgtt 600
cccaacccctc ttcctctgcaccccttgcgtt gctggcttcc cccctcaacca gtgtggatgt 660
ctggccctctg tcggaggggag catgatcatt ggagggtatcg accactcgat gtacacaggc 720
agtctcttgtt atacacccat cccggcggggag tggattatcg aggtcatcat tggcgggtg 780
gagatcaatg gacaggatcttgc gaaaatgtgc tgcaaggatg acaactatga caagacatt 840
gtggacatgt gcacccaccaa ctttcgtttgc cccaaaggaaatg tggtaaagca tgcaatgttcaaa 900
tccatcaagg cagcccttc caaggagaag ttccctgtatg gtttctgttcc agggagcag 960
ctgggtgtctg ggcaagcagg caccacccct tggaaacattt tcccaatcgat ctcaacttac 1020
ctaattgggtt aggttacca cccatgttgc cccatccacca tccatccgca gcaataacgtt 1080
cgcccaatgg aacatgttgc cccatgttgc gacgactgtt gcaatgttgc cccatccacag 1140
tcatccacgg gcaactgttat gggagttttgc atcatggagg gttttaatgttgc tggatgttgc 1200
cggycccgaa aacgaatttgg ctttgcgttgc agcgttgc gacgactgttgc atgtgcacga tgagttcagg 1260
acggcagcgg tggaaaggccc ttttgcacc ttggacatgg aagactgtgg ctacaacatt 1320
ccacagacag atgatgttgc 1341

<210> 22
<211> 446
<212> PRT
<213> Homo sapiens

<400> 22

Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg Gly Ser Thr Gln
1 5 10 15

His Gly Ile Arg Leu Pro Leu Arg Ser Gly Leu Gly Gly Ala Pro Leu

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 33 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

20	25	30
Gly Leu Arg Leu Pro Arg Glu Thr Asp Glu Glu Pro Glu Glu Pro Gly		
35	40	45
Arg. Arg Gly Ser Phe Val Glu Met Val Asp Asn Leu Arg Gly Lys Ser		
50	55	60
Gly Gln Gly Tyr Tyr Val Glu Met Thr Val Gly Ser Pro Pro Gln Thr		
65	70	75
Leu Asn Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala Val Gly Ala		
85	90	95
Ala Pro His Pro Phe Leu His Arg Tyr Tyr Gln Arg Gln Leu Ser Ser		
100	105	110
Thr Tyr Arg Asp Leu Arg Lys Gly Val Tyr Val Pro Tyr Thr Gln Gly		
115	120	125
Lys Trp Glu Gly Glu Leu Gly Thr Asp Leu Val Ser Ile Pro His Gly		
130	135	140
Pro Asn Val Thr Val Arg Ala Asn Ile Ala Ile Thr Glu Ser Asp		
145	150	155
160		
Lys Phe Phe Ile Asn Gly Ser Asn Trp Glu Gly Ile Leu Gly Leu Ala		
165	170	175
Tyr Ala Glu Ile Ala Arg Pro Asp Asp Ser Leu Glu Pro Phe Phe Asp		
180	185	190
Ser Leu Val Lys Gln Thr His Val Pro Asn Leu Phe Ser Leu His Leu		
195	200	205
Cys-Gly Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val		
210	215	220
Gly Gly Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly		
225	230	235
240		
Ser Leu Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile		
245	250	255
Ile Val Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys		
260	265	270
Glu Tyr Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu		
275	280	285
Arg Leu Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala		
290	295	300
Ala Ser Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln		
305	310	315
320		
Leu Val Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val		
325	330	335
Ile Ser Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile		
340	345	350

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 34 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Thr Ile Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr
355 360 365

Ser Gln Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly
370 375 380

Thr Val Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp
385 390 395 400

Arg Ala Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His
405 410 415

Asp Glu Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp
420 425 430

Met Glu Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser
435 440 445

<210> 23

<211> 1380

<212> DNA

<213> Homo sapiens

<400> 23

atggtagca tgactggtgg acagcaaattg ggtagggat egatgactat ctctgactat 60
cccggtgaaac aggacggatc caccggcac ggcattggc tgccccctgg cagcggtttg 120
ggggggcccc ccctgggtt gggctgtccc cgggagaccg acgaagagcc cgaggagccc 180
ggccggaggg gtagttttgt ggagatggtg gacaacctga gggcaagtc gggcaggggc 240
taatacggtt agatggccgt gggcggccccc cccgacacgc tcaacatctt ggtggataca 300
ggcagcgttta actttgcgtt ggggtgtggcc ccccaaccctt tccctgcattt ctactaccag 360
aggcactgtt ccacacata cccggacccctt cggaaagggtg tttatgtggcc ctacacccag 420
ggcaagtggg aaggggagct gggcacccgac ctggtaagca tccccatgg ccccaacgtc 480
actgtcggtt ccaacattgtt tggcatcatc gaatcagaca agttttccat caacggctcc 540
aactggaaag gcatcttggg gtggccttat gctgagatgg ccaggcctga egactccctg 600
gagcccttct ttgactctctt ggttaaggcag acccacgttc ccaacctttt tccctgcac 660
ctttgtggtg ctgggttccc cctcaaccctt tctgaagtgc tggcctgtt cggaggggc 720
atgatcatgtt gaggatgttcc coactcgctt tacacaggaa gtctctgtt tacacccatc 780
cgggggggat ggttattatgtt ggtcatcatt gtgggggtgg agatcaatgg acaggatctg 840
aaaatggact gcaaggatgtt caactatgtt aagagcatgg tggacagtgg caccaccaac 900
cttcgtttgtt ccaagaaaatgtt gttgaatgtt gcaatgtttt ccatcaaggc agcctcttcc 960
acggagaaatgtt tcctgtatgg ttcttggcta ggagagccgc tggtgtgtt gcaaggcaggc 1020
accacccctt ggaacatctt ccacgttcatc tcaacttaccat taatgggtt ggttaccaac 1080
cagtccttcc gcatccatc cttoctgcgtt caataactgc ggcctgtt gatgtggcc 1140
acgtcccaag acgactgttca caagtttgcctt atctcacatgtt catccacggg cactgtttagt 1200
ggagctgttca tcatggaggg ctcttacgtt gtctttgatc gggccctggaaa acgaattggc 1260
tttgcgttca gcgcttgcctt tttgcacatgtt gagttcaggaa cggcagccgtt ggaaggccct 1320
tttgcacatgtt tggacatgttca agactgttgcctt tacaacatcc cacagacaga tgactcatgtt 1380

<210> 24

<211> 459

<212> PRT

<213> Homo sapiens

<400> 24

Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg Gly Ser Met Thr
1 5 10 15

Ile Ser Asp Ser Pro Arg Glu Gln Asp Gly Ser Thr Gln His Gly Ile
20 25 30

Arg Leu Pro Leu Arg Ser Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 35 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

35	40	45
Leu Pro Arg Glu Thr Asp Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly		
50	55	60
Ser Phe Val Glu Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly		
65	70	75
Tyr Tyr Val Glu Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn Ile		
85	90	95
Leu Val Asp Thr Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro His		
100	105	110
Pro Phe Leu His Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg		
115	120	125
Asp Leu Arg Lys Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu		
130	135	140
Gly Glu Leu Gly Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn Val		
145	150	155
Thr Val Arg Ala Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe		
165	170	175
Ile Asn Gly Ser Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu		
180	185	190
Ile Ala Arg Pro Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu Val		
195	200	205
Lys Gln Thr His Val Pro Asn Leu Phe Ser Leu His Leu Cys Gly Ala		
210	215	220
Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Ser		
225	230	235
Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu Trp		
245	250	255
Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg		
260	265	270
Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn		
275	280	285
Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro		
290	295	300
Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser Ser		
305	310	315
Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val Cys		
325	330	335
Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser Leu		
340	345	350
Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu		
355	360	365

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 36 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln Asp
370 375 380

Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val Met
385 390 395 400

Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala Arg
405 410 415

Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu Phe
420 425 430

Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu Asp
435 440 445

Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser
450 455

<210> 25

<211> 1302

<212> DNA

<213> Homo sapiens

<400> 25

atgactcagc atggtatteg tctgccactg cgtagccgtc tgggtggtgc tccactgggt 60
ctgcgtctgc cccgggagac cgacgaagag cccgaggagc cccggccggag gggcagctt 120
gtggagatgg tggacaacct gaaaaaaaggg tcggggcagg gtactaacgt ggagatgacc 180
gtgggcagcc ccccccgacac gtcacacatc ctggtgata caggcagcag taactttgc 240
gtgggtgtcg cccccccaccc ctccctgtcat cgctactacc agaggcagct gtccagcaca 300
tacccgggacc ttccogaaggg tggatgtgt ccctacaccc aaggcaagtgg aagggggag 360
ctgggcaccc acctggtaag cattcccccatt ggccccaacgg tcactgtgcg tgccaaatt 420
gtgcgcattca ctgaatcaga caagtttttc atcaacggctt ccaactggga aggcatctgt 480
gggctggcct atgctgagat tggcaggcct gacgactccc tggagccctt ctttgcactt 540
ctggtaaago agacccacgt tcccaaccc ttctccctgc acctttgtgg tggatgttc 600
ccccctcaacc agtctgaaat gctggcccttc gtcggaggaa gcatgatcat tggaggatcc 660
gaccactcgd tggatcacagg cagtctctgg tatacacccca tccggcggga gtggatttat 720
gaggtcatca ttgtgggggt ggagatcaat ggacaggatc tggaaaatggg tggcaaggag 780
tacaactatg acaagagcat tgggacagt ggcacccacca accttcgttt gcccaagaaa 840
gtgttttggaa ctgcgtctca attccatcaag gcaaggccctt ccacggagaa gttccctgtat 900
ggtttttggc taggagacaa gctgggtgtc tggcaaggag gcaacccccc ttggaaacatt 960
ttcccaatgtca tctcaatctca cctaatgggt gaggatccca accagtccctt cccgatcatcacc 1020
atocctcccgd agcaataacct gggccacgtg gaagatgtgg ccacgtccca agacgactgt 1080
tacaaggatgg ccatctoaca gtcatccacg ggcactgtta tgggagctgt tatcatggag 1140
ggctttctacg ttgttttggaa tccggggccga aaacgaatttgc gctttgtgtc cagcgcttgc 1200
catgtgcacg atgagttcag gacggcagcg gttggaaaggcc cttttgtcac cttggacatg 1260
gaagactgtg gtcacaaat tccacagaca gatgatcat ga 1302

<210> 26

<211> 433

<212> PRT

<213> Homo sapiens

<400> 26

Met Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser Gly Leu Gly
1 5 10 15

Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp Glu Glu Pro Glu
20 25 30

Gly Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val Asp Asn Leu Arg
35 40 45

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 37 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr Val Gly Ser Pro
50 55 60
Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala
65 70 75 80
Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr Tyr Gln Arg Gln
85 90 95
Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val Tyr Val Pro Tyr
100 105 110
Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp Leu Val Ser Ile
115 120 125
Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile Ala Ala Ile Thr
130 135 140
Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp Glu Gly Ile Leu
145 150 155 160
Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp Ser Leu Glu Pro
165 170 175
Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro Asn Leu Phe Ser
180 185 190
Leu His Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu
195 200 205
Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu
210 215 220
Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr
225 230 235 240
Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met
245 250 255
Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr
260 265 270
Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser
275 280 285
Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu
290 295 300
Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile
305 310 315 320
Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser
325 330 335
Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp
340 345 350
Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser
355 360 365
Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val
370 375 380

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 38 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys
385 390 395 400

His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val
405 410 415

Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu
420 425 430

Ser

<210> 27

<211> 1278

<212> DNA

<213> Homo sapiens

<400> 27

atggctagca tgactggtgg acagcaaattg ggtcgccggat cgatgactat ctctgactct 60
ccgcgtggact ctggatcgaa aaccggacggaa tcctttgtgg agatggtgga caacctggagg 120
ggcaagtcgg ggcaggccta ctaacgtggag atgacccgtgg gcagcccccc gcagacgctc 180
aacatctgg tggatcacgg cagcagtaac tttgcagtgg gtgcgtccccc ccaccccttc 240
ctgcatcgct actacccaggg gcaacgtgtcc agcacataacc gggacccctgg gaagggtgtg 300
tatgtggccct acacccagggg caaactggaaa ggegagctgg gcacccgaccc ggtaaageatc 360
ccccatggcc ccaacgtccat tggcgtgcc aacattgtctt ccattcaactgaa atcagacaag 420
ttcttcataca acggctccaa ctggggaaaggc atccctggggc tggcctatgc tgagattggc 480
aggcctgacg actccctggaa gccttttctt gactctctgg taaaggcagac ccacgttccc 540
aacctcttc ccctgcacct ttgtgggtct ggcttccccc tcaaccaggc tgaagtgtg 600
gcctctgtcg gaggagcat gatcattggaa ggtatcgacc actcgctgtt cacaggcagt 660
ctctggata caccatccgg gggggagggtgg tattatgggg tcatcatgtt ggggggtgggg 720
atcaatggac aggatctgaa aatggactgc aaggagttaca atatgacaa gggcattgtg 780
gacagttggca ccaccaaccc tgggtttggcc aaaaagggtgtt tggagctgc agtcaaatcc 840
atcaaggcag cctctccac ggagaaggcc cctgtatgggt tctggatgggg agagcagctg 900
gtgtgtgtggc aagcaggcacc caccctttgg aacattttcc cagtcatctc actctaccta 960
atgggggtggg ttaccaaccat gtccttccgc atccacatcc ttccgcacgc atacctgggg 1020
ccagtggacat atggggccac gtcggccac gactgttacaa agttgtccat ctcacagtc 1080
tccacggggca ctgttatgggg agctgtttatc atggggggct ttcacgttgtt ttttgcattgg 1140
gccccaaaaac gaattgggtt tgctgtcagc gttggccatg tgcacgtatgaa gttcaggacg 1200
gcagcgggtgg aaggccctttt tggcaccttg gacatggaaag actgtggcta caacatccaa 1260
cagacagatg agtcatgtt 1278

<210> 28

<211> 425

<212> PRT

<213> Homo sapiens

<400> 28

Met Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg Gly Ser Met Thr
1 5 10 15

Ile Ser Asp Ser Pro Leu Asp Ser Gly Ile Glu Thr Asp Gly Ser Phe
20 25 30

Val Glu Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr
35 40 45

Val Glu Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val
50 55 60

Asp Thr Gly Ser Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe
65 70 75 80

Leu His Arg Tyr Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu
85 90 95

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 39 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Arg Lys Gly Val Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu
100 105 110
Leu Gly Thr Asp Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val
115 120 125
Arg Ala Asn Ile Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn
130 135 140
Gly Ser Asn Trp Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala
145 150 155 160
Arg Pro Asp Asp Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln
165 170 175
Thr His Val Pro Asn Leu Phe Ser Leu His Leu Cys Gly Ala Gly Phe
180 185 190
Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Ser Met Ile
195 200 205
Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr
210 215 220
Pro Ile Arg Arg Glu Trp Tyr Glu Val Ile Ile Val Arg Val Glu
225 230 235 240
Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp
245 250 255
Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys
260 265 270
Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu
275 280 285
Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln
290 295 300
Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu
305 310 315 320
Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln
325 330 335
Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys
340 345 350
Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala
355 360 365
Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg
370 375 380
Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr
385 390 395 400
Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly
405 410 415
Tyr Asn Ile Pro Gln Thr Asp Glu Ser
420 425

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
 APPLICATION NO. : 09/869414
 DATED : September 14, 2004
 INVENTOR(S) : Mark E. Gurney et al.

Page 40 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

<210> 29
 <211> 1362
 <212> DNA
 <213> Homo sapiens

<400> 29
 atggcccaag ccctgcctg gotcctgtc tggatggcg cggagtgct gcctgccac 60
 ggcaccaggc acggatccg gctgcccctg cgcagccgc tggggggcgc cccctgggg 120
 ctggcgtgc cccggagac cgacgaagag cccgaggagc cggccggag gggcagctt 180
 gtggagatgg tggacaacct gaggggcaag tggggcagg gctactaagt ggatgacc 240
 gtggcagcc cccccagac gtcacacatc ctggtgata caggcagcag taacttgca 300
 gtgggtgtc ccccccaccc ctccctgtc cgctactaag agggcagct gtccagcaca 360
 taccggacc tccggaaaggg tggatgtc cccatcaccc agggcaatg ggaaggggag 420
 ctgggcaccc acctggtaag catccccat ggcaccaacg tcactgtcg tgccaaacatt 480
 gtcgcacatca ctgaatcaga caagtttctc atcaacggct ccaactggg aggcatctg 540
 ggggtgccc atgtggatg tgccagggc gacgactccc tggagccctt ctttgactct 600
 ctggtaaagg agacccacgt tcccaaccc ttctccctgc acctttgtgg tgctggcttc 660
 cccatcaacc agtgtgaatg gtggccctt gtcggaggaa gcatgatcat tggaggatatt 720
 gacoactcgc tgcacacagg cagtctctgg tatacaccca tccgggggaa gtggatttat 780
 gaggtcatca ttgtgcgggt ggagatcaat ggacaggatc tgaaaatggg ctgcaaggag 840
 tacaactatg acaagagcat tggacactg ggcacccacca accttcgtt gcccaagaaa 900
 gtgtttaagg ctgcgtcaatccatcaag gtcacgttcc ccacggagaa gtccctgtat 960
 ggtttctggc tagggagaca getgggtgtgc tggcaagacg gcacccccc ttggaaacatt 1020
 ttcccagtca ttcactcta cotaatgggt gaggttacca accagtcctt ccgcataacc 1080
 atccttccgc agcaataacet gcccacgtg gaagatgtgg ccacgtccca agacgactgt 1140
 tacaaggttt ccatctcaca gtcatccacg ggcactgtt tggagctgt tatcatggag 1200
 ggcttcatacg ttgttttga tcggggccca aaacgaattt gctttgtgt cagecgttgc 1260
 catgtgcacg atgatccag gacggcagcg gtggaaaggc cttttgtcac cttggacatg 1320
 gaagactgtg gctacaacat tccacagaca gatgagtcat ga 1362

<210> 30
 <211> 453
 <212> PRT
 <213> Homo sapiens

<400> 30
 Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
 1 5 10 15
 Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
 20 25 30
 Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
 35 40 45
 Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
 50 55 60
 Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
 65 70 75 80
 Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
 85 90 95
 Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
 100 105 110
 Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
 115 120 125
 Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
 130 135 140

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 41 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145 150 155 160

Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
165 170 175

Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
180 185 190

Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
195 200 205

Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
210 215 220

Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
225 230 235 240

Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
245 250 255

Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln
260 265 270

Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
275 280 285

Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
290 295 300

Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
305 310 315 320

Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
325 330 335

Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
340 345 350

Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
355 360 365

Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
370 375 380

Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
385 390 395 400

Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
405 410 415

Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu
420 425 430

Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro
435 440 445

Gln Thr Asp Glu Ser
450

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 42 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

<210> 31
<211> 1380
<212> DNA
<213> Homo sapiens

<400> 31
atggcccaag ccctgccctg gctcctgctg tggatggcg cgggagtgtc gcctgcccac 60
ggcacccagg acggcatccg gtcgcctcg cgccagccgc tggggggcgc ccccttggg 120
ctggggctgc cccggagac cgacgaagag cccgaggagc cccggccggag gggcagcttt 180
gtggagatgg tggacaaacct gagggcgaag tggggcagg gctactacgt ggagatgacc 240
gtgggcagcc ccccgagac gtcacacatc ctggtggtate caggcagcag taacttgca 300
gtgggtgtcg ccccccaccc ctccctgcat cgctactacc agaggcagct gtccagacca 360
tacccggacc ctgggaagggt tggatgtcg ccctacaccg aggccaaatgg ggaaggggag 420
ctgggcaccc acctggtaag catccccat gggcccaacg tcactgtgct tgccaaattt 480
gttgcacatca ctgaatcaga caaatttttc atcaacggct ccaactggg aggcatctg 540
gggctggct atgctgagat tggcaggctt gacgactccc tggagcttt ctgtactct 600
ctgttaaagc agacccacgt tcccaaccc tttccctgtc acctttgtt tgctggttt 660
cccttcaccc agtcttgaatg gtcggaggaa gcatgatcat tggaggatc 720
gaccactcg tgcacccagg cagttctgg tatacaccctc tccgggggaa gtggatattt 780
gaggctatca ttgtgcgggtt gtagatcaat ggacaggatc tgaaaatggg ctgcaaggag 840
tacaactatg acaagagcat tggacatgtt ggcaccacca accttcgtt gccaagaaa 900
gtgtttaaagc ctgcagtcaa atccatcaag gacgcttcct ccacggagaa gttccctgtat 960
ggtttcttgc taggagagca gtcggatgtt gtcggaggaa gacccacccc ttggacattt 1020
ttcccaatcta tctactcta cttatgggtt gaggatccca accagtcctt ccgcacatcacc 1080
atccctccgc agcaataacctt gggccatgtt gtagatgtt ccacgttccca agacgactgt 1140
tacaagtgtt ccatctcaca gtcatccacg ggcactgtt tggagatgtt tatcatggag 1200
ggcttctacg ttgtctttga tggggccggaa aacgaaatgg gctttgtt cagcgcttgc 1260
catgtcagc agtggatgtcag gacggcagcg gtcggaggcc cttttgcac ctggacatgt 1320
gaagactgtg gtcacacat tccacagaca gatgatgtc acgacgacca gacgactgt 1380

<210> 32
<211> 459
<212> PRT
<213> Homo sapiens

<400> 32
Met Ala Gln Ala Leu Pro Trp Leu Leu Trp Met Gly Ala Gly Val
1 5 10 15
Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
20 25 30
Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
35 40 45
Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
50 55 60
Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Val Glu Met Thr
65 70 75 80
Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
85 90 95
Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
100 105 110
Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
115 120 125
Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
130 135 140

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 43 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145 150 155 160
Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
165 170 175
Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp
180 185 190
Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro
195 200 205
Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln
210 215 220
Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile
225 230 235 240
Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg
245 250 255
Glu Trp Tyr Tyr Glu Val Ile-Ile Val Arg Val Glu Ile Asn Gly Gln
260 265 270
Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val
275 280 285
Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala
290 295 300
Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp
305 310 315 320
Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr
325 330 335
Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val
340 345 350
Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg
355 360 365
Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala
370 375 380
Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu
385 390 395 400
Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala
405 410 415
Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu
420 425 430
Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro
435 440 445
Gln Thr Asp Glu Ser His His His His His His

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 44 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

<210> 33
<211> 25
<212> PRT
<213> Homo sapiens

<400> 33
Ser Glu Gln Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu
1 5 10 15

Ser Ser Leu Val Arg His Arg Trp Lys.
20 25

<210> 34
<211> 19
<212> PRT
<213> Homo sapiens

<400> 34
Ser Glu Gln Leu Arg Gln Gln His Asp Asp Phe Ala Asp Asp Ile Ser
1 5 10 15

Leu Leu Lys

<210> 35
<211> 29
<212> DNA
<213> Homo sapiens

<400> 35
gtggatccac ccagcacggc atccggctg 29

<210> 36
<211> 36
<212> DNA
<213> Homo sapiens

<400> 36
gaaagcttcc atgactcata tgcgtgttgc atgttg 36

<210> 37
<211> 39
<212> DNA
<213> Homo sapiens

<400> 37
gatecgatgac tatctctgac tctccgcgtg aacaggacg 39

<210> 38
<211> 39
<212> DNA
<213> Homo sapiens

<400> 38
gatccgtctt gttcacgcgg agagtcagag atagtcata 39

<210> 39
<211> 77
<212> DNA
<213> Artificial Sequence

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 45 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

<220>
<223> Description of Artificial Sequence: Hu-Asp2

<400> 39
cggcatccgg ctgccccctgc gtacgggtct ggggtggtgct ccactgggtc tgcgtctgcc 60
ccgggagacc gacgaag 77

<210> 40
<211> 77
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hu-Asp2

<400> 40
cttcgtcggt ctccggggc agacgcagac ccagtggagc accacccaga ccgcatacgca 60
ggggcagccg gatggcg 77

<210> 41
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Caspase 8
Cleavage Site

<400> 41
gatcgatgac tatctctgac tctccgtgg actctggtat cgaaaccgac g 51

<210> 42
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Caspase 8
Cleavage Site

<400> 42
gatccgtcgg ttccgatacc agagtccagc ggagagtcag agatagtcat c 51

<210> 43
<211> 32
<212> DNA
<213> Homo sapiens

<400> 43
aaggatccct tgtggagatg gtggacaacc tg 32

<210> 44
<211> 36
<212> DNA
<213> Homo sapiens

<400> 44
gaaagcttca atgactcatc tgtctgtgga atgttg 36

<210> 45
<211> 24
<212> DNA
<213> Artificial Sequence

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 46 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

<220>
<223> Description of Artificial Sequence: 6-His tag

<400> 45
gatcgcatca tcaccatcac catg 24

<210> 46
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 6-His tag

<400> 46
gatccatgtt gatggtagt atgc 24

<210> 47
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 47
gactgaccac tcgaccaggc tc 22

<210> 48
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 48
cgaatttaat tccagcacac tggctacttc ttgttctgca tctcaaaga c 51

<210> 49
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer

<400> 49
cgaatttaat tccagcacac tggcta 26

<210> 50
<211> 1287
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hu-Asp2(b)
delta TM

<400> 50
atggcccaag ccctgccctg gtcctgtg tggatggcg cgggagtgt gcctgcccac 60
ggcacccagc acggcatccg gctgccccctg cgcagccggcc tggggggggc cccccctgggg 120
ctggggctgc cccggagac cgacgaagag cccgaggagc cggccggag gggcagcttt 180

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 47 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

gtggagatgg tggacaacct gagggcaag tcggggcagg gctactacgt ggagatgacc 240
.gtgggcagcc ccccgac getcaacatc ctggtgata caggcagcag taactttgca 300
gtgggtgtcg cccccccccc cttectgcat cgctactacc agaggcagct gtccagcaca 360
tacccggacc tccgaaaggg tgggtgtcg ccctacaccg agggcaagtg ggaaggggag 420
ctgggcaccc acctgttaag catccccatc gggcccaacg tcaactgtcg tgccaacatt 480
gctgcacatca ctgaatcaga caaagttttc atcaacggct ccaactggga aggcatctg 540
gggctggcct atgctgagat tggcaggctt tgggtgtcg gttttccctt caaccagtct 600
gaagtgtcg ctctgtcg aggaggatcg atcattggag gtatcgacca ctgcgtgtac 660
acaggcgtc tctgtatcac accatccgg cgggagttggg attatgggt catcattgtg 720
cgggtggaga tcaatggaca ggtactgaaa atggactgca aggactacaa ctatgacaag 780
agcattgtgg acatgtggcac caccaaacctt cgtttggcca agaaagtgtt tgaagctgca 840
gtcaaatcca tcaaggcage ctctccacg gagaagttcc ctgatggttt ctggcttagga 900
gaggcgtgg tgggtggca agcaggcacc acccccttggaa acatttttttt agtcatctca 960
ctctacatca tgggtggatggt tacaatccag tccttcggca tcaccatctt tccgcagca 1020
tacctgcggc cagttggaga tgggtggccacg tcccaagacg actgttatcaa gtttgccttc 1080
tcacagtcat ccacgggcac tgggtatggaa gttgttatca tggagggtt ctacgttgc 1140
tttgcgtggg cccggaaaacg aattggctt gttgtcagcg ctggccatgt gcacgtatgag 1200
ttcaggacgg caggggtggaa agggccctttt gtcaccttgg acatggaaaga ctgtggctac 1260
aacattccac agacatgaa gtcatga 1287

<210> 51
<211> 428
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hu-Asp2(b)
delta TM

<400> 51
Met Ala Gln Ala Leu Pro Trp Leu Leu Trp Met Gly Ala Gly Val
1 5 10 15

Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
20 25 30

Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
35 40 45

Glu Glu Pro Glu. Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
50 55 60

Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65 70 75 80

Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
85 90 95

Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
100 105 110

Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
115 120 125

Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
130 135 140

Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145 150 155 160

Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
165 170 175

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 48 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Leu Cys Gly
180 185 190
Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly
195 200 205
Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu
210 215 220
Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val
225 230 235 240
Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr
245 250 255
Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu
260 265 270
Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser
275 280 285
Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val
290 295 300
Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser
305 310 315 320
Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile
325 330 335
Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln
340 345 350
Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val
355 360 365
Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala
370 375 380
Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu
385 390 395 400
Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu
405 410 415
Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser
420 425

<210> 52
<211> 1305
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hu-Asp2(b)
delta TM

<400> 52
atggcccaag ccctgcctcg gtcctgtgtg tggatggcgc cggagtgctt gctgtccccac 60
ggcacccagg acggcatccg gctgcccctg cgcagggc cggggggcgcc cccctgggg 120
ctggggctgc cccgggagac cgacgaag cccggggagg cggccggggag gggcagttt 180
gtggagatgg tggacaacct gaggggcaag tggggcagg gctactacgt ggagatgacc 240

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 49 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

gtgggcagcc cccgcagac gctcaacatc ctgggtggata caggcagcag taacttgca 300
gtgggtgtcg cccccccacc ctcgtcatc cgctactacc agaggcagct gtccacgaca 360
tacgggaccc tccggaaagggt tgggtatgtg ccctacaccc agggcaagt ggaaggggag 420
ctgggcaccc acctggtaag catccccatc ggcccacact tcactgtgcg tgccaacatt 480
gctgccatca ctgaatcaga caagtttttc atcaacggct ccaactggga aggcatcctg 540
gggctggcct atgetgagat tgccaggtt tgggtgtcg gettccccct caaccagtct 600
gaagtgtctgg cctctgtcgg agggagcatg atcattggag gtatcgacca ctcgtgtac 660
acaggcagtc tctgtataac acccattccgg cgggagttgtg attatgggtt catcattgtg 720
cgggtggaga tcaatggaca ggtatgtaaa atggactgca aggagtacaa ctatgacaag 780
agcattgtgg acagtggcac caccacaccc cgtttgcca agaaaagtgtt tgaagctgca 840
gtcaaatcca tcaaggcagc ctcttccacg gagaagtccctt ctgatggttt ctggcttagga 900
gaggcagctgg tggctggca agcaggcacc acccccttggaa acatttccc agtcatctca 960
ctctacatcc tgggtggatc taccacccatc tccatccca tccgca 1020
tacctgcggc cagttggaaa tggggccacg tcccaagacg actgttacaa gtttgcac 1080
tcacagtcat ccacgggcac ttgttatggga gctgttataca tggagggctt ctacgttgc 1140
tttgatcggg cccggaaaaacg aatttggctt gctgtcaggg cttggccatgt gcacgatgag 1200
ttcaggacggc cagccgtggg aggccctttt gtcacacccatc acatggaaaga ctgtggctac 1260
aacattccac agacagatgca gtcacagcagc cagcagcagc agtga 1305

<210> 53

<211> 434

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Hu-Asp2(b),
delta TM

<400> 53

Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
1 5 10 15

Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
20 25 30

Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
35 40 45

Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
50 55 60

Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
65 70 75 80

Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
85 90 95

Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
100 105 110

Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
115 120 125

Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
130 135 140

Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
145 150 155 160

Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
165 170 175

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 50 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Leu Cys Gly
180 185 190
Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly
195 200 205
Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu
210 215 220
Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val
225 230 235 240
Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr
245 250 255
Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu
260 265 270
Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser
275 280 285
Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val
290 295 300
Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser
305 310 315 320
Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile
325 330 335
Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln
340 345 350
Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val
355 360 365
Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala
370 375 380
Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu
385 390 395 400
Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu
405 410 415
Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser His His His His
420 425 430
His His

<210> 54
<211> 2310
<212> DNA
<213> Homo sapiens

<400> 54
atgctggccgt gtttggcaact gctcctgctg gcccgcctgga cggctcgccc gctggaggtta 60
cccactgatg gtaatgctgg cctgctggct gaaccccaga ttgccatgtt ctgtggcaga 120
ctgaacatgc acatgaatgt ccagaatggg aagtgggatt cagatccatc agggacaaaa 180

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 51 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

acotgcattg ataccaagga aggcatctg cagtattgcc aagaagteta ccctgaactg 240
cagatcacca atgtggtaga agccaaccaa ccagtgacca tccagaactg gtgcaegcg 300
ggccgcagaad agtgcacagc cctacccaa ttgtgatc cctaccgtg ottagttgg 360
gagttttaa gtgtatccc ttegtggct gacaagtgc aatttttaca ccaggagagg 420
atggatgtt gcgaaactca ttttcactgg cacacccgtc cccaaagagac atgeagtgag 480
aagagtacca acctgcatga ctacggcatg ttgtgcctt gccggattga caagttccga 540
ggggtagagt ttgtgtgtg cccactggct gaagaaaggat acaatgtggg ttctgtgtat 600
gcgggaggagg atgactggg tgctctgtgg ggccggacag acacagacta tgcaatggg 660
agtgaagaca aagttagata agtagcagag gaggagaag tggctgagggt ggaagaagaa 720
gaagccgatg atgacggagga cgatgaggat ggtgtatgggg tagaggaga ggctgaggaa 780
coctaegaaag aagccacatg gagaaccacc acgtatgcctt ccaccaccc caccaccaca 840
gagtctgtt aagagggtgt tcgagaggatg tgctctgtt aagccggacac gggccgtgc 900
cgagcaatgat tttccgtgt gtactttgtat tgactgtgg ggaagtgtgg cccatcttt 960
tacggcgat gtggccgaa cccggaaacac ttgtgacacag aagagtactg catggccgtg 1020
tgtggcageg ccatgtccca aagtttactc aagactaccc aggaacctct tggccogagat 1080
cctgttaaaccc ttccatccaa acgacccgtt accccctgtat ccgttgcacaa gtatctegag 1140
acacctgggg atgagaatgc acatggccat ttccagaaag cccaaagagag gcttgaggcc 1200
aagcaccgg agagaatgtc ccggatgtat agagaatggg aagaggcaga acgtcaagca 1260
aagaacttgc ctaaagctga taagaaggca gttatccaggc atttccaggaa gaaagtggaa 1320
tctttggAAC aggaagcgc caacgagaga cagcagctgg tggagacaca catggccaga 1380
gtggaaagcca tgctcaatga ccgcgcgcgc ctggccctgg agaactacat caccgtctg 1440
caggctgttc ctccctggcc tgcgtacgtt ttcaatgtc taaaaggatg tgcgcgcga 1500
gaacagaagg acagacagca caccctaaag catttcgagc atgtgcgcac ggtggatccc 1560
aagaaagccg ctcagatccg gtcccaggtt atgacacacc tccgtgtat ttatgacgc 1620
atgaatcgt ctcttcctt gtcctacaac gtgcctgcac tggccggg gattcaggat 1680
gaatgttgc agotgttca gaaagagca aactattcag atgacgttca ggccaaatcg 1740
attatgttgc acaggatcag ttacggaaac gatgttca tgcctatctt gaccggaaacg 1800
aaaaccaccc tggagctctt tccctgtat ggagatgttca gcctggacga ttcctggcc 1860
tggcatctt ttggggctgtg ctctgtgcac gccaacacacg aaaacgaaatg tgactctgtt 1920
gtggccgcgc ctgtgcacca cggaggactg accactgcac cagggtctgg gttgacaaat 1980
atcaagacgg aggagatctc tgaagtgtgg atggatgcac aatttccgcac tgactctgg 2040
tatgaatgttcc atcatcaaaa attgggtttc ttgcagaaag atgtgggttc aaacaaaggt 2100
gcaatcattt gactcatgtt gggcggtgtt gtcatacgca cagtgtatcgat catcaccttg 2160
gtgtatgttca agaagaaaaca gtacacatcc attcatcatg ggtgtgttga ggttgacgc 2220
gtgtcaccaccc cagaggagcg ccacctgtcc aagatgcac agaacggcta cgaaaatccca 2280
acctacaatgt tctttggatca gatgcacatc 2310

<210> 55
<211> 770
<212> PRT
<213> Homo sapiens

<400> 55
Met Leu Pro Gly Leu Ala Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
20 25 30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 52 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 230 235 240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260 265 270

Ala Thr Thr Thr Thr Thr Glu Ser Val Glu Val Val Arg
275 280 285

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile
290 295 300

Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe
305 310 315 320

Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr
325 330 335

Cys Met Ala Val Cys Gly Ser Ala Met Ser Gln Ser Leu Leu Lys Thr
340 345 350

Thr Gln Glu Pro Leu Ala Arg Asp Pro Val Lys Leu Pro Thr Thr Ala
355 360 365

Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu Glu Thr Pro Gly Asp
370 375 380

Glu Asn Glu His Ala His Phe Gln Lys Ala Lys Glu Arg Leu Glu Ala
385 390 395 400

Lys His Arg Glu Arg Met Ser Gln Val Met Arg Glu Trp Glu Glu Ala
405 410 415

Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp Lys Lys Ala Val Ile
420 425 430

Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu Gln Glu Ala Ala Asn
435 440 445

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 53 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Glu Arg Gln Gln Leu Val Glu Thr His Met Ala Arg Val Glu Ala Met
450 455 460

Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn Tyr Ile Thr Ala Leu
465 470 475 480

Gln Ala Val Pro Pro Arg Pro Arg His Val Phe Asn Met Leu Lys Lys
485 490 495

Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His Thr Leu Lys His Phe
500 505 510

Glu His Val Arg Met Val Asp Pro Lys Lys Ala Ala Gln Ile Arg Ser
515 520 525

Gln Val Met Thr His Leu Arg Val Ile Tyr Glu Arg Met Asn Gln Ser
530 535 540

Leu Ser Leu Leu Tyr Asn Val Pro Ala Val Ala Glu Glu Ile Gln Asp
545 550 555 560

Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn Tyr Ser Asp Asp Val
565 570 575

Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser Tyr Gly Asn Asp Ala
580 585 590

Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Val Glu Leu Leu Pro
595 600 605

Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln Pro Trp His Ser Phe
610 615 620

Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn Glu Val Glu Pro Val
625 630 635 640

Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr Thr Arg Pro Gly Ser
645 650 655

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Lys Met Asp
660 665 670

Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Leu
675 680 685

Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile Gly
690 695 700

Leu Met Val Gly Gly Val Val Ile Ala Thr Val Ile Val Ile Thr Leu
705 710 715 720

Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile His His Gly Val Val
725 730 735

Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg His Leu Ser Lys Met
740 745 750

Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys Phe Phe Glu Gln Met
755 760 765

Gln Asn
770

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 54 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

<210> 56
<211> 2253
<212> DNA
<213> *Homo sapiens*

<210> S7
<211> 751
<212> PRT
<213> *Homo sapiens*

<400> 57
Met Leu Pro Gly Leu Ala Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
20 25 30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
35 40 45

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 55 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 230 235 240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260 265 270

Ala Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275 280 285

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile
290 295 300

Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe
305 310 315 320

Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr
325 330 335

Cys Met Ala Val Cys Gly Ser Ala Ile Pro Thr Thr Ala Ala Ser Thr
340 345 350

Pro Asp Ala Val Asp Lys Tyr Leu Glu Thr Pro Gly Asp Glu Asn Glu
355 360 365

His Ala His Phe Gln Lys Ala Lys Glu Arg Leu Glu Ala Lys His Arg
370 375 380

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 56 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Glu Arg Met Ser Gln Val Met Arg Glu Trp Glu Glu Ala Glu Arg Gln
385 390 395 400
Ala Lys Asn Leu Pro Lys Ala Asp Lys Lys Ala Val Ile Gln His Phe
405 410 415
Gln Glu Lys Val Glu Ser Leu Glu Gln Glu Ala Ala Asn Glu Arg Gln
420 425 430
Gln Leu Val Glu Thr His Met Ala Arg Val Glu Ala Met Leu Asn Asp
435 440 445
Arg Arg Arg Leu Ala Leu Glu Asn Tyr Ile Thr Ala Leu Gln Ala Val
450 455 460
Pro Pro Arg Pro Arg His Val Phe Asn Met Leu Lys Lys Tyr Val Arg
465 470 475 480
Ala Glu Gln Lys Asp Arg Gln His Thr Leu Lys His Phe Glu His Val
485 490 495
Arg Met Val Asp Pro Lys Lys Ala Ala Gln Ile Arg Ser Gln Val Met
500 505 510
Thr His Leu Arg Val Ile Tyr Glu Arg Met Asn Gln Ser Leu Ser Leu
515 520 525
Leu Tyr Asn Val Pro Ala Val Ala Glu Glu Ile Gln Asp Glu Val Asp
530 535 540
Glu Leu Leu Gln Lys Glu Gln Asn Tyr Ser Asp Asp Val Leu Ala Asn
545 550 555 560
Met Ile Ser Glu Pro Arg Ile Ser Tyr Gly Asn Asp Ala Leu Met Pro
565 570 575
Ser Leu Thr Glu Thr Lys Thr Val Glu Leu Leu Pro Val Asn Gly
580 585 590
Glu Phe Ser Leu Asp Asp Leu Gln Pro Trp His Ser Phe Gly Ala Asp
595 600 605
Ser Val Pro Ala Asn Thr Glu Asn Glu Val Glu Pro Val Asp Ala Arg
610 615 620
Pro Ala Ala Asp Arg Gly Leu Thr Thr Arg Pro Gly Ser Gly Leu Thr
625 630 635 640
Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Lys Met Asp Ala Glu Phe
645 650 655
Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Leu Val Phe Phe
660 665 670
Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile Gly Leu Met Val
675 680 685
Gly Gly Val Val Ile Ala Thr Val Ile Val Ile Thr Leu Val Met Leu
690 695 700
Lys Lys Lys Gln Tyr Thr Ser Ile His His Gly Val Val Glu Val Asp
705 710 715 720

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 57 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Ala Ala Val Thr Pro Glu Glu Arg His Leu Ser Lys Met Gln Gln Asn
725 730 735

Gly Tyr Glu Asn Pro Thr Tyr Lys Phe Phe Glu Gln Met Gln Asn
740 745 750

<210> 58
<211> 2316
<212> DNA
<213> Homo sapiens

<400> 58
atgctggccg gttggcaact gctctgtgt ggcgcctgga cggctcgggc gctggaggta 60
cccactgtat gtaatgtctgg ctgtgtggct gaaccccaaga ttgccccatgtt ctgtggcaga 120
ctgaacatgc acatgtatgt ccagaatggg aagtgggatt cagatccatc agggaccaaa 180
acctgtatgt atccaaaggaa aggcatcgtc cgtattgttc aagaatgtcta cctgtactg 240
cagatccatc atgttgtata agccaaaccaa ccagtgtatc tccaggactg gtgcacggg 300
ggccgcacgc agtgcacacgc ccatccccat ttgtgtatcc cctaccgtc tttagtgtt 360
gagttttaa gtgtatccct ttcgttctt gacaagtgtca aatttttaca ccaggagagg 420
atggatgttt gcgcacactca ttcgtactgg cacaccgtcg cccaaaggagac atgcagtgg 480
aagagtatcca acttgatcat tcacggcatg ttgtgtccct gggatgtca caagttccca 540
ggggtagatgt ttgtgttgtt ccacatgtgtt gaaagaaatgtt acaatgtgtca ttctgtgtat 600
gcggaggagg atgactcggtt tgctctgtgg ggcggagcag acacagacta tgcagatggg 660
agtgaacaca aagttagata agtagcagag gagggaaaggg tggctggatgtt ggaagaagaa 720
gaagecgatc atgacggatc cgtatggatgtt ggtgtatggg tagaggaa ggcgtggggaa 780
ccctacaaag aagccacaca gagaaccacc accatgtccca ccaccacacc caccacaca 840
gagtctgtgg aagaggtgtt tcgagagggtg tgctctgtgtc aacccggagac gggccgtgc 900
cgagcaatgtat ttcctcgatgt gtactttgtat gtgactgtca ggaatgtgtc cccattttttt 960
tacggccatgtt gtcggccatgc cccgaacaaac ttgcacacag aagactactg catggccgtc 1020
tgcgtggccatgc ccatgtccca aatgttactt aagactaccatc aggaacctt tggccggatgtt 1080
cctgttaaac ttccatcaac agcagccatgtt accccctgtatc ccgttgacaa gtatctcgat 1140
acacactgggg atgagaatgtatc acatgtccatc ttccatggaaatc cccaaaggagatgtt gcttgaggcc 1200
aagoacccatgc agaagatgtc coaggatcatg agagaatggg aagaggcaga acgtcaagca 1260
aagaacttgc cttaaatgtatc taagaaggatc gttatccatgc attttccatgc gaaatgtggaa 1320
tctttgttgc acggacgcgc caacggatgc cggcgtcgatcc tggccatgtt cccatgtctg 1380
gttggaaatgc tgcgtatgtatc ccggccggccgc ctggcoctgg agaactacat caccgtctg 1440
caggcttgc ttccatggatgtt tcgtatgtatc taaatgtatc tgcgtatgtatc 1500
gaacagaaaggcc acacacatgc caccatgtatc catttgcatgtt atgttgtatgtt ggtggatccc 1560
aagaaaggccg ctcaatgtatc ttccatggatgtt atgacatgtatc tccgtgtatgtt ttatggatgc 1620
atgaatgtatc ctcttcctt gctctacaac gtgcctgtatc tggccatgtatc gatttgc 1680
gaagttgtatc agtgcgttca gaaagagatgtt aacttattgtatc atgacatgtatc ggccaaatgtatc 1740
atgtgtatgtatc caaggatgtatc ttccatggatgtt tccatgtatc tgcgtatgtatc gaccggaaacg 1800
aaaacccatgc tggatgtatc tccatgtatc gggatgtatc ggcgtggatgtatc tccatgtatc 1860
tggcattttt ttggggctgtatc ttccatgtatc gccaacacatgc aaaaacaaatgtatc tggccatgtatc 1920
gatgcgcgcgc ctgtgtatc gggatgtatc gggatgtatc accactgtatc cgggttctgg gttgacaaatgtatc 1980
atcaatgtatc agggatgtatc tggatgtatc gatgtatc gatgtatc tggatgtatc tggatgtatc 2040
tatgtatgtatc tggatgtatc tggatgtatc tggatgtatc tggatgtatc tggatgtatc 2100
gcaatgtatc gatgtatc tggatgtatc tggatgtatc tggatgtatc tggatgtatc tggatgtatc 2160
gtgatgtatc agaagaaaca gtacacatgtatc tggatgtatc tggatgtatc tggatgtatc tggatgtatc 2220
gctgtatgtatc cagaggatgtatc ccacatgtatc aatgtatc tggatgtatc tggatgtatc tggatgtatc 2280
acatgtatgtatc tggatgtatc tggatgtatc tggatgtatc tggatgtatc tggatgtatc tggatgtatc 2316

<210> 59
<211> 772
<212> PRT
<213> Homo sapiens

<400> 59
Met Leu Pro Gly Leu Ala Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 58 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

20

25

30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 230 235 240

Glu Ala Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260 265 270

Ala Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275 280 285

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile
290 295 300

Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe
305 310 315 320

Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr
325 330 335

Cys Met Ala Val Cys Gly Ser Ala Met Ser Gln Ser Leu Leu Lys Thr
340 345 350

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 59 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Thr Gln Glu Pro Leu Ala Arg Asp Pro Val Lys Leu Pro Thr Thr Ala
355 360 365
Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu Glu Thr Pro Gly Asp
370 375 380
Glu Asn Glu His Ala His Phe Gln Lys Ala Lys Glu Arg Leu Glu Ala
385 390 395 400
Lys His Arg Glu Arg Met Ser Gln Val Met Arg Glu Trp Glu Glu Ala
405 410 415
Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp Lys Lys Ala Val Ile
420 425 430
Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu Gln Glu Ala Ala Asn
435 440 445
Glu Arg Gln Gln Leu Val Glu Thr His Met Ala Arg Val Glu Ala Met
450 455 460
Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn Tyr Ile Thr Ala Leu
465 470 475 480
Gln Ala Val Pro Pro Arg Pro Arg His Val Phe Asn Met Leu Lys Lys
485 490 495
Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His Thr Leu Lys His Phe
500 505 510
Glu His Val Arg Met Val Asp Pro Lys Lys Ala Ala Gln Ile Arg Ser
515 520 525
Gln Val Met Thr His Leu Arg Val Ile Tyr Glu Arg Met Asn Gln Ser
530 535 540
Leu Ser Leu Leu Tyr Asn Val Pro Ala Val Ala Glu Glu Ile Gln Asp
545 550 555 560
Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn Tyr Ser Asp Asp Val
565 570 575
Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser Tyr Gly Asn Asp Ala
580 585 590
Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Val Glu Leu Leu Pro
595 600 605
Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln Pro Trp His Ser Phe
610 615 620
Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn Glu Val Glu Pro Val
625 630 635 640
Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr Thr Arg Pro Gly Ser
645 650 655
Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Lys Met Asp
660 665 670
Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Leu
675 680 685

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 60 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile Gly
690 695 700

Leu Met Val Gly Gly Val Val Ile Ala Thr Val Ile Val Ile Thr Leu
705 710 715 720

Val Met Leu Lys Lys Gln Tyr Thr Ser Ile His His Gly Val Val
725 730 735

Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg His Leu Ser Lys Met
740 745 750

Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys Phe Phe Glu Gln Met
755 760 765

Gln Asn Lys Lys
770

<210> 60
<211> 2259
<212> DNA
<213> *Homo sapiens*

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 61 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

gcegetgtca cccccagaga gcccacactg tccaaatgc agcagaacgg ctacaaaaat 2220
ccaaacctaca agtttttga gcagatgcag aacaagaag 2259

<210> 61
<211> 753
<212> PRT
<213> Homo sapiens

<400> 61
Met Leu Pro Gly Leu Ala Leu Leu Leu Ala Ala Trp Thr Ala Arg
1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
20 25 30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145 150 155 160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165 170 175

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180 185 190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210 215 220

Val Val Glu Val Ala Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 230 235 240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260 265 270

Ala Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275 280 285

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 62 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile
290 295 300
Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe
305 310 315 320
Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr
325 330 335
Cys Met Ala Val Cys Gly Ser Ala Ile Pro Thr Thr Ala Ala Ser Thr
340 345 350
Pro Asp Ala Val Asp Lys Tyr Leu Glu Thr Pro Gly Asp Glu Asn Glu
355 360 365
His Ala His Phe Gln Lys Ala Lys Glu Arg Leu Glu Ala Lys His Arg
370 375 380
Glu Arg Met Ser Gln Val Met Arg Glu Trp Glu Glu Ala Glu Arg Gln
385 390 395 400
Ala Lys Asn Leu Pro Lys Ala Asp Lys Lys Ala Val Ile Gln His Phe
405 410 415
Gln Glu Lys Val Glu Ser Leu Glu Gln Glu Ala Ala Asn Glu Arg Gln
420 425 430
Gln Leu Val Glu Thr His Met Ala Arg Val Glu Ala Met Leu Asn Asp
435 440 445
Arg Arg Arg Leu Ala Leu Glu Asn Tyr Ile Thr Ala Leu Gln Ala Val
450 455 460
Pro Pro Arg Pro Arg His Val Phe Asn Met Leu Lys Lys Tyr Val Arg
465 470 475 480
Ala Glu Gln Lys Asp Arg Gln His Thr Leu Lys His Phe Glu His Val
485 490 495
Arg Met Val Asp Pro Lys Lys Ala Ala Gln Ile Arg Ser Gln Val Met
500 505 510
Thr His Leu Arg Val Ile Tyr Glu Arg Met Asn Gln Ser Leu Ser Leu
515 520 525
Leu Tyr Asn Val Pro Ala Val Ala Glu Glu Ile Gln Asp Glu Val Asp
530 535 540
Glu Leu Leu Gln Lys Glu Gln Asn Tyr Ser Asp Asp Val Leu Ala Asn
545 550 555 560
Met Ile Ser Glu Pro Arg Ile Ser Tyr Gly Asn Asp Ala Leu Met Pro
565 570 575
Ser Leu Thr Glu Thr Lys Thr Val Glu Leu Leu Pro Val Asn Gly
580 585 590
Glu Phe Ser Leu Asp Asp Leu Gln Pro Trp His Ser Phe Gly Ala Asp
595 600 605
Ser Val Pro Ala Asn Thr Glu Asn Glu Val Glu Pro Val Asp Ala Arg
610 615 620

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 63 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Pro Ala Ala Asp Arg Gly Leu Thr Thr Arg Pro Gly Ser Gly Leu Thr
625 630 635 640
Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Lys Met Asp Ala Glu Phe
645 650 655
Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Leu Val Phe Phe
660 665 670
Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile Gly Leu Met Val
675 680 685
Gly Gly Val Val Ile Ala Thr Val Ile Val Ile Thr Leu Val Met Leu
690 695 700
Lys Lys Lys Gln Tyr Thr Ser Ile His His Gly Val Val Glu Val Asp
705 710 715 720
Ala Ala Val Thr Pro Glu Glu Arg His Leu Ser Lys Met Gln Gln Asn
725 730 735
Gly Tyr Glu Asn Pro Thr Tyr Lys Phe Phe Glu Gln Met Gln Asn Lys
740 745 750

Lys

<210> 62
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 62
Leu Glu Val Leu Phe Gln Gly Pro
1 5

<210> 63
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 63

Ser Glu Val Asn Leu Asp Ala Glu Phe Arg
1 5 10

<210> 64
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 64 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

<400> 64
Ser Glu Val Lys Met Asp Ala Glu Phe Arg
1 5 10

<210> 65
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 65
Arg Arg Gly Gly Val Val Ile Ala Thr Val Ile Val Gly Glu Arg
1 5 10 15

<210> 66
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 66
Asn Leu Asp Ala
1

<210> 67
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 67
Glu Val Lys Met Asp Ala Glu Phe
1 5

<210> 68
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 68
Gly Arg Arg Gly Ser
1 5

<210> 69
<211> 6
<212> PRT
<213> Artificial Sequence

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 65 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 69
Thr Gln His Gly Ile Arg
1 5

<210> 70
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 70
Glu Thr Asp Glu Glu Pro
1 5

<210> 71
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 71
Met Cys Ala Glu Val Lys Met Asp Ala Glu Phe Lys Asp Asn Pro
1 5 10 15

<210> 72
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 72

Asp Ala Glu Phe Arg
1 5

<210> 73
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 73

Ser Glu Val Asn Leu
1 5

<210> 74
<211> 4

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,790,610 B2
APPLICATION NO. : 09/869414
DATED : September 14, 2004
INVENTOR(S) : Mark E. Gurney et al.

Page 66 of 66

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic Peptide

<220>
<221> misc_feature
<222> (1)
<223> Xaa = Lys or Asn

<220>
<221> misc_feature
<222> (2)
<223> Xaa = Met or Leu

<220>
<221> misc_feature
<222> (3)
<223> Xaa = Asp

<220>
<221> misc_feature
<222> (4)
<223> Xaa = Asp

<400> 74
Xaa Xaa Xaa Xaa
1

Signed and Sealed this
Eighteenth Day of September, 2007



JON W. DUDAS
Director of the United States Patent and Trademark Office